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The National Center for Research on Teacher Education held a retreat for teacher educators in programs connected with the Center's research. The proceedings, which enable a wider audience to learn about the deliberations, combine summaries of interactive sessions with presented papers. Interactive sessions focus on two issues: expertise in teaching and the role of experience in learning to teach. Papers present issues and questions that emerged from exploratory interviews conducted by Center researchers with teacher educators at 22 different teacher education programs. The proceedings also include an overview of the Center's research and a paper on how the Center is studying changes in teachers' knowledge, skills and dispositions. The proceedings close with a conversation between Judith Lanier, President of the Holmes Group, and Harry Judge, Head of the Faculty of Educational Studies at Oxford University, on teacher education reform in the United States. (Author)

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Conference Series 87-1

# TEACHER EDUCATION AND LEARNING TO TEACH:

## PROCEEDINGS OF THE FIRST ANNUAL NCRTE RETREAT--JUNE 24-26, 1987

Sharon Feiman-Nemser, Editor

NCRTE

**National Center for Research on Teacher Education**

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# TEACHER EDUCATION AND LEARNING TO TEACH:

## PROCEEDINGS OF THE FIRST ANNUAL NCRTE RETREAT--JUNE 24-26, 1987

Sharon Feiman-Nemser, Editor

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## National Center for Research on Teacher Education

The National Center for Research on Teacher Education (NCRTE) was founded at Michigan State University in 1985 by the Office of Educational Research and Improvement, U.S. Department of Education.

The NCRTE is committed to improving teacher education through research on its purposes, its character and quality, and its role in teacher learning. NCRTE defines teacher education broadly and includes in its portfolio such diverse approaches as preservice, inservice and induction programs, and alternate routes to teaching.

To further its mission, the NCRTE publishes Center reports, issue papers, conference proceedings, and a newsletter on contemporary issues in teacher education. For more information about the NCRTE or to be placed on its mailing list, please write to the Editor, National Center for Research on Teacher Education, 516 Erickson Hall, Michigan State University, East Lansing, Michigan 48824-1034.

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# Abstract

The National Center for Research on Teacher Education held a retreat for teacher educators in programs connected with the Center's research. The proceedings, which enable a wider audience to learn about the deliberations, combine summaries of interactive sessions with presented papers. Interactive sessions focus on two issues: expertise in teaching and the role of experience in learning to teach. Papers present issues and questions that emerged from exploratory interviews conducted by Center researchers with teacher educators at 22 different teacher education programs. The proceedings also include an overview of the center's research and a paper on how the Center is studying changes in teachers' knowledge, skills and dispositions. The proceedings close with a conversation between Judith Lanier, President of the Holmes Group, and Harry Judge, Head of the Faculty of Educational Studies at Oxford University, on teacher education reform in the United States.

# OVERVIEW OF THE CENTER

# OVERVIEW OF THE CENTER

The National Center for Research on Teacher Education (NCRTE) is committed to research that will contribute to the improvement of teacher education. Its headquarters are at Michigan State University, an institution with a history of innovative programming in teacher education.

The NCRTE was inaugurated in 1985 with a grant from the U.S. Department of Education's Office of Educational Research and Improvement. The grant award followed a yearlong nationwide competition.

In pursuit of its mission, the NCRTE examines a variety of approaches to teacher education, including preservice, inservice and induction programs, and alternative routes to teaching. The NCRTE seeks to further knowledge and understanding of

- The purposes of teacher education
- The character and quality of teacher education
- The role of teacher education in teacher learning

The National Center for Research on Teacher Education is examining both teacher education and teacher learning. It views teacher education as one of many influences on teachers and examines its purpose and role relative to these influences. It asks what impact various approaches or alternatives to teacher education have on teachers and how particular kinds of learning opportunities influence teachers. The Center is interested in these questions as they relate to the teaching of two academic subjects: mathematics and writing.

These questions have concerned educators since the first teacher institutes and normal schools were established more than a century ago. They have also stimulated some research. But there has been more argument than inquiry, and the issues have rarely been defined in a way that permitted careful investigation. To contribute to these debates, the Center's work consists as much of conceptual development as it does of gathering empirical data.

Our research strategy has been developed so that these two activities will enhance one another. The conceptual work can improve the quality of the data we gather, and the data we gather can clarify the concepts we examine. Our goal is to improve and expand conceptual and empirical studies of teacher education and teacher learning and, in so doing, to help focus debates about teacher education and inform teacher education policy and practice.

## Research Agenda

The Center's research agenda is organized around three fundamental issues in teacher education. One of these is purpose: What skills, knowledge, and dispositions are thought to be important to effective teaching of mathematics and writing? On which of these do teacher education programs concentrate and why? For each approach or alternative examined, the Center researchers are defining what professional knowledge is thought to consist of and, in particular, the extent to which professional knowledge consists of subject matter knowledge, pedagogical knowledge, or a mixture of these.

The second is program character and quality: What is the character and quality of various approaches to teacher education? Of particular interest is how programs assume teachers acquire professional knowledge and how they organize learning opportunities to facilitate teacher learning. Center researchers are looking at the extent to which programs as implemented are consistent with program goals and with program views of how teachers learn to teach. They are also describing the standards to which teachers are held accountable upon entering the programs, during the programs, and at the completion of the programs.

The third issue is teacher learning: What knowledge, skills, and dispositions are teachers expected to acquire? What do they actually acquire? When do they acquire or develop these and under what circumstances? Within the two subject areas of mathematics and writing, Center researchers are documenting what teachers learn about the subject matter itself, as well as about the teaching and learning of the subject matter. Among other things, we want to find out how teacher learning relates to the learning opportunities provided by teacher education programs.

## Research Strategy

One of the most difficult facts of life for social scientists has been the realization that social phenomena cannot be disentangled in a way that permits unambiguous statements of causal relationships. Even when statistical relations are strong, their interpretation is confused by multiple plausible causal interpretations and tempered by the fact that the observed relations may not generalize to other times in social history or to other social contexts. These difficulties have stimulated a number of methodological debates among researchers regarding the appropriateness of different research methods for different kinds of questions and to a realization that we are moving into an era where "good" social science is plausible social science.

The Center's research is no exception. Teacher education programs are not independent variables that we can manipulate. They are formed by their state governments, their student bodies, and the demands of their client school districts. Similarly, what students learn about teaching while participating in these programs depends on what they already learned elsewhere, on their ability to learn, on their beliefs about and dispositions toward teaching, on their inclination to learn, and on the nature of their concurrent learning experiences. We cannot control all of these influences. We cannot even measure them all.

To maximize the possibility of identifying plausible and meaningful relationships between, on the one hand, opportunities to learn to teach academic subjects and, on the other, changes in knowledge, skills, or dispositions, we are doing three things. First, we contrast two academic subjects--mathematics and writing--so that we can examine the relationship between subject matter and pedagogy. Second, we include a variety of approaches and alternatives to teacher education in our study, so that we can learn the different ways in which the teaching of academic subjects may be handled.

Third, we are conducting a longitudinal study of teachers' knowledge, skills, and dispositions relevant to teaching mathematics and writing, so that we can see how these change over time and under different circumstances. When combined, these strategies permit us to examine variations in opportunities to learn--and in the sequence with which these opportunities are provided--and to examine variations in the kinds of knowledge, skills, and dispositions teachers acquire over time and under different circumstances.

## 1. Contrasting Mathematics and Writing

Since the Center's research agenda focuses on learning to teach academic subjects, it examines teacher education in relationship to particular subjects. We wanted to draw on at least two subjects so that the contrast between them would add to our understanding of how subject matter bears on teaching and teacher education.

For a number of reasons we chose to concentrate on mathematics and writing. First, we wanted to select subjects taught throughout the K-12 curriculum, subjects that are important to teachers of all grade levels. Second, we wanted subjects with a research base that the Center can draw on. Finally, we wanted to select subjects for which there is a recognized gap between teaching practices in schools and the teaching practices implied by research findings.

Mathematics and writing both meet these criteria. Both subjects are central to the school curriculum; they comprise two of the three "r"s. Both are taught throughout the grades, and students are expected to continually refine and expand their knowledge, understanding, and skills in each subject as they move through the curriculum. And both are subjects of public concern: Neither educators nor citizens believe that these subjects are currently being taught as they should be or that graduating students are as facile as they should be in these subjects.

Also, other relationships between mathematics and writing make them fruitful to study. For instance, both involve symbol manipulation and are seen as useful tools for solving problems. Both require students to do more than simply recite facts or understand concepts. Learning mathematics means being able to calculate and use mathematical techniques to solve problems;

learning to write means being able to use language to communicate for different purposes and in a variety of settings. In addition, the skills associated with each subject include both basic and higher order skills. Consequently both mathematics and writing have been subjects of intense debate regarding the relative merits of teaching basic or higher order skills, the sequence in which different skills should be introduced, and the methods that should be used to teach the subject in general.

Yet despite these similarities, there are also important differences between the subjects. Mathematics takes a more clearly defined position in the curriculum of schools, colleges, and teacher education programs than does writing. While a course in math methods is a standard part of most teacher preparation programs, courses in writing methods are not similarly available. Writing, on the other hand, can be and is taught in a variety of places--history courses, foreign language courses, or business courses, as well as in English courses.

Finally, the nature of the disciplines behind these school subjects are quite different. One is based in a highly developed system of algorithms and standards of evidence and proof that enable independent judges to test the merits of an argument; the other is based in amorphous shared understandings of the meaning of symbols and the appropriate use of symbols to communicate ideas. For all of these reasons, we believe the contrast between mathematics and writing is highly likely to yield useful knowledge about the relationship between subject matter, teaching, and learning to teach.

## 2. Inclusion of Various Approaches

The Center's work rests on case studies of teacher education programs. It does not restrict itself to teacher education as it is conventionally understood--undergraduate professional education courses, student teaching, and inservice workshops. The Center's research includes traditional undergraduate teacher education programs and undergraduate "reforms," five-year and fifth-year programs, alternative routes to teaching, induction and inservice programs. These approaches differ in the relative emphasis they place on liberal arts studies, formal study of pedagogy, and guided practice. They also differ in the way they combine these elements and in the way they treat academic subject matter and pedagogy.

### 3. Longitudinal Study

The third important element of the Center's research consists of longitudinal studies of teachers as they participate in these programs and then move on to independent practice. Our studies of teacher learning will follow intending or practicing teachers through a variety of experiences. Undergraduates will be followed through the last two years of their undergraduate studies and through their first year of teaching. Students in fifth-year programs will be followed through the last year or two of their programs, depending on how the programs are designed, and into their first year of teaching.

Those entering teaching through alternative routes will be followed during whatever instruction or supervision they receive prior to teaching, through supervised teaching, and through their first year of unsupervised teaching. First-year teachers in induction programs will be followed through that experience and through their first year of unsupervised teaching. And inservice teachers, to the extent possible, will be picked up some time prior to their inservice program and followed through their inservice experience and for a year thereafter.

The Center's research design calls for longitudinal studies of teacher learning that can be used to determine how teachers' and prospective teachers' knowledge, skills, or dispositions change over time and in relation to the kind of learning experiences they encounter. Participants will include teacher education candidates who intend to teach elementary education, secondary English, or secondary math; liberal arts math or English majors who have no intention of teaching; liberal arts math or English major graduates who intend to enter teaching through alternative routes; and teachers currently teaching writing or mathematics who are participating in induction or inservice teacher education programs.

Each group of participants will be asked on repeated occasions to respond to a questionnaire, to be interviewed, to respond to some structured exercises, and to permit us to observe them in their classrooms. These data collection activities will focus on knowledge, skills, and dispositions relevant to teaching academic subjects.

## Data Analysis

The variety of populations participating in the study, combined with our longitudinal study design, enables us to address a number of important issues related to preparing teachers to teach academic subjects.

First, the focus on writing and mathematics enables us to see how programs treat subject matter and to see whether they treat different subjects differently. It also enables us to see how intending and practicing teachers' writing and mathematics experiences and their a priori perceptions of these subjects relate to what and how they learn about teaching them. This is an important issue in light of the differences between methods used to teach these subjects during the past decade and a half--the methods by which most contemporary teaching candidates were taught--and the methods of teaching that are now advocated by researchers.

Second, the inclusion, at the undergraduate level, of both teacher education candidates and mathematics and English majors enables us to contrast the experiences these two groups have had when they enter the study as juniors and to contrast changes in their knowledge that occur as they complete programs in their major or in teacher education or in both. This is important in light of the current controversy regarding the relative importance of liberal arts and teacher-education course work in preparation for teaching.

Third, the inclusion of programs serving teachers at different stages of their development--preservice, first year of service or later inservice--and the inclusion of programs with diverse purposes related to preparing teachers to teach, enables is to examine the relationship between goals and strategies and the variety of strategies that may be employed within programs.

Fourth, the inclusion of college students who plan to teach these subjects, but who have never taught, as well as experienced teachers who are participating in inservice programs, enables us to compare individuals at widely different stages of development as teachers and to see how their knowledge of their subjects and of teaching these subjects differs across these stages. These differences can provide clues about what is learned from undergraduate courses and what is learned from practice and can help us understand the differences in purpose and probable impact of preservice and inservice teacher education.

Finally, the combination of longitudinal studies of teachers and case studies of programs enables us to examine changes within individuals over time, both in their knowledge of the subjects and in their knowledge about teaching the subjects, and to see whether or how these changes are related to particular kinds of learning opportunities they encounter, such as methods courses, practicum experiences, courses in mathematics or in writing or literature. These findings will be important to teacher educators who want to improve the organization and content of their programs.

## Participating Sites

The NCRTE cooperates with teacher educators engaged in a variety of approaches and alternatives to teacher education. The programs they represent are listed below.

### Preservice

Dartmouth College
    Teacher Certification Program
    Hanover, NH

Illinois State University
    Elementary Education and Secondary Program for Mathematics
    Normal, IL

Michigan State University
    Academic Learning Program
    East Lansing, MI

Norfolk State University
    Early Childhood and Elementary Education
    Norfolk, VA

Trenton State College
    Elementary Education
    Trenton, NJ

University of Florida
    Elementary PROTEACH and Secondary English PROTEACH
    Gainesville, FL

### First Year

Albuquerque Public Schools/University of New Mexico
    Graduate Intern/Teacher Induction Program
    Albuquerque, NM

Los Angeles Unified School District
    Teacher Trainee Program
    Los Angeles, CA

New Jersey Provisional Teacher Program

### Inservice

Columbia University
    Teachers College Writing Project
    New York, NY

Mount Holyoke College
    SummerMath for Teachers Program
    South Hadley, MA

## SESSION A

## WELCOME AND OPENING REMARKS

# WELCOME AND OPENING REMARKS

## Sharon Feiman-Nemser, Associate Director

Welcome to the first annual retreat on teacher education and learning to teach sponsored by the National Center for Research on Teacher Education. I would like to begin the program by telling you a little about our expectations for this event and by describing who is here and what we will be doing together over the next two days.

Pat Forgione, a researcher and policy analyst from Connecticut and a member of our Advisory Board, has called this group the Center's "extended family" because it includes people closely connected with our work. Last fall, we conducted exploratory studies in 20 teacher education programs and alternatives around the country. Some were preservice programs, some induction, some inservice, and some alternative routes to teaching. We invited all 20 programs to send a representative to this retreat which is why most of you are here. Center researchers make up a second category of participants. Many of us are also teacher education practitioners. While we have some staff members from other institutions such as the University of Wisconsin and Teachers College of Columbia University, most of the Center researchers come from Michigan State University. Several members of our National Advisory Board are attending the retreat, including Chair Lee Shulman, as well as some invited guests.

We hope that this retreat will serve several related purposes. First, we see the retreat as a vehicle for stimulating serious discussion among teacher educators about the role of teacher education in learning to teach. One unique feature of this gathering is that we have people from different types of programs working with teachers at different career stages. Thus a major purpose of this annual event is to create a forum for clarifying our ideas and considering the implications of our data.

This retreat is also a way of informing people connected with the Center about each stage of our work. This gathering is being held at the very beginning of a longitudinal study. In fact, we launched our study last month in one of the inservice sites and will begin the study in our preservice sites this fall. At future retreats, we will focus more on what we are learning. This year we will concentrate on research questions and issues.

In planning my remarks, I thought about the succession of names that we used to refer to this event. In the early planning stage, we talked about having a "conference." Then for a while we called this a "seminar." Finally, we began to use the term "retreat" because the connotations seemed most appropriate. We wanted to create a special kind of event--a chance for people to put aside the daily pressures of work and engage in serious discussion with other teacher educators about fundamental issues. That sounded more like a retreat, whereas a conference seemed to be an occasion for reading papers to people who mostly sit and listen. Out of curiosity I looked up these three terms in the Oxford English Dictionary and learned that we are actually holding a conference since a retreat is a "period of withdrawal," a conference is a way of bringing people together for discussion and exchange of opinions, and a seminar connotes advanced study with a teacher.

Let me give you an overview of the program outlined in your notebook. Our first session tomorrow morning will focus on notions of expertise in teaching. What do we look for in teachers? To what extent are our ideas about expertise in teaching related to the kinds of settings where teachers work? To explore these questions we have divided people into small groups and created a hiring exercise that should stimulate a lot of discussion. Following that, Mary Kennedy will share with us a recently completed paper on forms of expertise in other professions.

The afternoon session offers a change in both focus and format. We want to discuss some of the programmatic issues and questions that were stimulated by our exploratory visits to the 20 sites. We will hear three short presentations, each focusing on a different issue and illustrating the range of responses that we encountered in our interviews with teacher educators.

Having talked about some about programmatic issues, we will turn to the other side of the Center's work--longitudinal studies of what teachers learn and how their knowledge, skills, and dispositions change as they participate in different teacher education programs and move into independent teaching. Bill McDiarmid, an associate director, will describe our strategies for tracking teachers' learning over time.

Friday morning we will again work in small groups--this time focusing on the role of experience in learning to teach. This was a common theme in almost every program we visited whether at the preservice, induction or inservice levels. In this session you will first talk with other teacher educators working at the same level to clarify appropriate lessons of experience and then compare your ideas with those of teacher educators working at a different level. The overall purpose is to examine what can be learned from experience at different points in teachers' careers and how those lessons can best be fostered.

Our final session after lunch promises to be a special treat. Judy Lanier, president of the Holmes Group, and Harry Judge, head of Educational Studies at Oxford University, will talk informally about teacher education reform in the United States and in England.

We hope that this retreat will launch a valuable exchange of ideas that we can continue over the next few years.

## SESSION B

## DEFINING PROFESSIONAL EXPERTISE IN TEACHING

# THE HIRING EXERCISE: TASK AND GROUP REPORTS

## The Task

Programs of teacher education, whether they focus on prospective or practicing teachers, all intend to prepare people for teaching. While programs of necessity pay attention to many different issues, a chief goal of any program is to foster expertise. There are, however, different notions about what expertise in teaching consists of.

Because of the centrality of this issue in teacher education, we focused our first morning session on forms of professional expertise. In order to stimulate discussion about the relative merits of different kinds of expertise in teaching, we divided participants into small groups, provided them with brief descriptions of four teacher candidates and gave them the following charge:

> This is the first meeting of a new committee in the district charged with the responsibility of hiring an elementary teacher. While the search is still open, these are among the four most promising candidates. Your task is to discuss the merits of each candidate, identifying their strengths and weaknesses. Take a straw vote to see where the committee stands on each person. The focus at this stage should be on what these people know and how they are likely to teach. At a later stage we will consider the specific needs of the district as they relate to expertise in teaching.

After an hour of discussion, participants reconvened to hear reports from discussion leaders. Because the task stimulated considerable diversity of response, we present the group summaries below, following the descriptions of the four candidates.

## Descriptions of Teaching Candidates

**Pat** has successfully completed a competency-based teacher certification and received a favorable evaluation on the statewide assessment. In student teaching, she developed a mastery reading program. In her letter of recommendation, Pat's cooperating teacher wrote: "Pat has strong technical skills. She can maintain order, pace instruction appropriately, give pupils useful feedback. She knows when to reteach material and when to correct student responses. Overall I recommend Pat as a teacher."

**Beverley** has completed a major in elementary education. She also wrote an honors thesis on the role of prior knowledge in learning to read. During student teaching Beverley applied strategies based on this research in conducting reading groups. Her cooperating teacher was impressed with Beverley's knowledge of the principles of instruction and child development and her ability to base decisions on her theoretical understanding.

**Maria** has a B.A. with honors in English. In her senior thesis she compared different traditions of literary criticism. During college Maria tutored in an after-school program. In his letter of recommendation, the principal mentioned her "extensive knowledge of many subjects--math, literature, science--and her ability to explain complex ideas clearly." As part of the program, Maria ran a successful book club which encouraged pupils to read children's classics.

**Rhonda** graduated from a teacher education program that used the case study approach. Her student teaching journal was chosen as a model because it showed considerable insight in analyzing classroom situations. Rhonda's cooperating teacher was impressed by Rhonda's thoughtful questions and her skill in analyzing what went on each day in her classroom. In her letter of recommendation she wrote: "Rhonda learns from her experiences." During student teaching Rhonda set up a reading program based on her own assessment, advice from her cooperating teacher, and an analysis of student test scores.

## Group Reports

### Lynn Paine

Our group decided that no one candidate was our first choice. Instead, we preferred someone who combined the qualities of Beverley and Maria. Pat appeared to have technical skill, but one person described her as "an automaton" with "no spark." Rhonda also had technical skill but seemed "bloodless"; this detracted from her analytic skills. While Beverley could write about and apply theories, we had little information about her classroom experience. Maria showed initiative and appeared to combine a scholarly orientation with an orientation toward children. Still, we wondered whether she could teach students to read.

In the straw vote, Beverley received one vote and Rhonda received two; Pat and Maria received no votes. Several members of the group were unwilling to vote for any candidate. If we had to recommend someone to begin teaching in two days, Pat would be our choice. Even though she might "bore the kids," we had confidence that she could walk into the classroom with little preparation time and manage to survive.

Our "hybrid" candidate, a combination of Maria and Beverley, reflected our belief that a teacher needed to "know something," have the ability to base strategies on principles of child development and instruction, and show some "spark." We agreed on these basic prerequisites for teaching but disagreed on their order of importance. Some argued that subject matter was the first priority; others, that knowledge of children must come first. We also wanted a teacher to be enthusiastic, but did not agree about whether subject matter or students should be the object of their enthusiasm.

Our group also took a strong position that expertise must be grounded in a particular context. The age of the students, the composition of the classroom, the needs of students, the structure of the school, and the amount of support available to the teacher would all affect our view of expertise. In discussing how expertise is manifested, we insisted on seeing the candidate teaching. Only by observing the process of teaching through a demonstration lesson or videotape could we see the multiple variables that make up teaching expertise. In viewing our candidate, we would focus on the students and look for enthusiasm and involvement.

### Jim Mosenthal

In our group of six, one person voted for Rhonda, two for Beverley, two for Maria, and one wanted more information, even though he leaned toward Maria. Commenting on the preference for Maria, someone observed: "Why do we have Colleges of Education?"

We saw Pat's technical skill as a strength, but wondered about her ability to learn from the children and make decisions. We admired Beverley's ability to apply theoretical knowledge of child development, but questioned her ability to interact with children in a classroom situation and her lack of disciplinary training. Maria's background in literature was seen as an obvious strength, though several members of the group warned about the tendency for some people trained in an academic discipline to be didactic and overly analytic. Some people also saw Maria's lack of formal study in education as a strength. Rhonda's strength included her ability to work effectively in classrooms, basing her plans on what she observed rather than some abstract set of principles. Still we wondered whether Rhonda would focus on either the whole class or the individual child rather than attending to both.

The group decided on two interview questions. First, we would ask candidates whether they considered themselves to be good learners. Second, we would ask candidates to talk through a lesson on some specified content (e.g., photosynthesis). The candidate would be provided with details about the context as well as with curricular materials to use if desired. The situational task would allow us to see how candidates integrate and manifest various kinds of knowledge about teaching and subject matter. The committee would be particularly interested in what candidates wanted students to learn and what information they requested about the setting.

### Marianne Amarel

Rhonda's strengths included her ability to learn from experience, to write well, to be self-reliant and reflective; however, we wondered whether Rhonda was on a voyage of self-discovery. Could she draw on extant knowledge? Could she relate observations to instruction? Could she organize her experience in terms of some theoretical framework?

Maria combined strong content knowledge with an ability to help children to learn independently. She also seemed to be aware of the complexity of ideas. Still, we did not know enough about her teaching skills, knowledge of child development, and management skills to assess her teaching ability. Being able to explain complex ideas is necessary but not sufficient in teaching. We wondered, for example, whether Maria would be flexible or skilled at making decisions. We also wondered whether Maria would be interested in working with the full range of students and whether she would find long-term satisfaction in a teaching career.

Beverley seemed to have a broad theoretical base, including knowledge of students' learning and individual differences. She also seemed to know how to organize a classroom and translate research into teaching practices. We did not know about the adequacy of her subject matter knowledge or about the effects of her teaching on students.

Pat seemed to be technically proficient in basic, generic skills of teaching identified by teacher effectiveness research. She also has a goal for classroom--self-control--which also has pedagogic value. Still, we had no evidence that Pat valued knowledge and we doubted her capacity to evaluate or modify curricular goals.

In our discussion, we generated several qualities that we wanted in all teachers. These included zest, subject matter knowledge, and a disposition to work with the full range of students. Overall, we agreed that dispositions were critical in predicting performance yet difficult to capture. Should hiring decisions be based on the presence of dispositions that are hard to cultivate rather than on knowledge and skills that can be acquired on the job?

Finally, the hiring task led us to pose several training issues. What skills should be the focus of training, what skills can evolve over time, and what should be determined by the setting? Finally, do we prefer candidates who come to teaching with preferred goals and developed values or do we want teachers who are creatures of their environment?

### Trish Stoddart

We took a straw vote before and after our discussion. In the first round, Pat and Beverley each received one vote, Rhonda received five votes, and Maria received no votes. One person voted to extend the search.

In the final vote, Pat received no votes, Beverley and Maria received two votes each, and Rhonda received four votes.

In deciding how to vote, we seemed to be influenced by different assumptions about the conditions under which new teachers would begin teaching. If the school or district had no program to support beginning teachers, Rhonda and Pat seemed to be the safest choices. If the school had an induction program for beginning teachers, it could afford to take a chance on candidates with potential such as Maria and Beverley.

We noted Rhonda's practical teaching skills and her ability to analyze what goes on in classrooms. The former would enable her to cope in the classroom; the latter suggested a potential to learn from experience and grow as a teacher. Pat's ability to maintain order and manage classrooms was considered a strength. "You would hire Pat because 70% of new teachers go into inner city classrooms and need the technical and management skills to succeed there." However, Pat seemed to have the least potential for growth.

Maria struck us as someone who would be a very stimulating teacher. As one person put it: "She's the kind of person we should be encouraging to go into teacher education." We felt that Maria might do well in a middle school or private school. Beverley's strength was her knowledge of children and her ability to use this knowledge in teaching. Many felt that she would be particularly effective in a middle school setting.

### Sharon Feiman-Nemser

In our straw vote, Pat, Beverley, and Maria each received one vote and Rhonda received four. We saw Pat as someone with technical skills, as well as some ability to judge when to use them appropriately. As one member of the group pointed out, the description says that Pat knows when to reteach and when to correct student responses. In order to function as more than a technician, however, Pat would need a solid grounding in subject matter.

Beverley's strength was her ability to blend theory and practice. Without knowing what theories inform her work, however, we could not judge whether Beverley would make students fit a particular orientation or be able to bring a range of theoretical perspectives to bear in her teaching.

One person in our group thought Maria was a risky candidate. Others were impressed with her initiative as evidenced by her work in the after-school program and by a presumed passion for her subject matter. Did the principal who recommended Maria actually see her teach? One person argued that Maria might be effective in a private school; others felt that all students deserved teachers like Maria with strong preparation in subject matter.

While most members of the group saw Rhonda as someone who could learn from her experience, we debated the meaning and significance of this characteristic. One person argued that having the disposition to reflect on ones' teaching provides a necessary foundation for future learning. Another cautioned that we had no information about the frameworks Rhonda would use to interpret her experience. A third suggested that the cooperating teacher may be trying to send a qualified message by writing that "Rhonda learns from her experience."

## RESPONSE TO THE GROUP DISCUSSIONS

### Mary Kennedy, Director

These conversations have been particularly interesting to me because I have spent the last several months reading and thinking about professional expertise. Many people these days are talking about the knowledge base of teaching, but knowledge by itself is not sufficient for practice. Instead, knowledge has to be connected in some way to action. When knowledge is connected to practice, it becomes expertise.

It seems to me that what makes professional education especially difficult is that it tries to connect knowledge to action. It tries to provide expertise. The literature I have been reviewing for the past several months came from a number of different professions. I wanted to learn how other professions defined expertise and how they provided it. It probably will come as no surprise to you to learn that I identified four kinds of expertise on the basis of that literature review, nor to learn that the four characters you spent the last two hours arguing about represent those four kinds of expertise. So let me move directly into a description of these forms of expertise.

The first kind of expertise I identified was technical skill. The first teacher candidate you considered, Pat, represented this form of expertise. Incidentally, I discovered as I read all this literature that teacher education is unique among professions in using the term "skill" to refer to virtually everything teachers do--we have cognitive skills, analytic skills, planning skills, and so forth. Most other professions reserve the term skill to a narrower range of activity. I have used the term "technical skill" to refer to that narrower range of activity.

Technical skills are fundamental to virtually every profession. I am aware of the importance of technical skills in medicine every time I take my son to the emergency room and watch doctors stitch stitches, give shots, and dress wounds. But other professions also require technical skills--architects draw, engineers calculate stress tolerances, journalists operate work processors, teachers orchestrate the movements of their classrooms, and so forth.

Yet many professional educators who used to emphasize technical skills have changed their orientation toward more emphasis on general principles. In the late 1950s, for instance, business schools went through a soul-searching episode similar to that which teacher education is going through right now. At that time, they provided job-specific training for numerous specific business occupations. But they realized that they could not provide the skills necessary for all these different jobs and moved instead to provide an education of theory and general principles that could be applied to all business positions. Engineering went through a similar transformation, and so did nursing.

Actually, there were a number of reasons for moving away from an orientation toward technical skills. One was, as I mentioned, the feasibility of covering all necessary skills. Another, more important reason, had to do with how skills are applied in practice. It became apparent that professionals needed to know the rationale for their skills in order to decide which skills were needed in each situation. In other words, these professional educators realized that their students needed to think on their feet, and they needed some kind of decision rules to help them.

So a second form of expertise consists of the ability to apply theory and general principles. In our exercise, Beverly represented this form of expertise. She can make independent judgments about how to act, and she can base these judgments on a reasonably well-developed body of thought.

Medicine and engineering best represent programs of professional education that emphasize theory and general principals. Both are based on large bodies of scientific theory and both provide relatively heavy doses of these knowledge bases to their students. For these professions, the job of professional education is first to teach students all the relevant theory and research findings and then give them opportunities to practice them. Most of them would never allow someone to practice before they had learned the theory, on the ground that the professional simply would not know what to do. Consequently, practicum has a more specific goal than it does in education, for it is the place where students are taught how to recognize cases as examples of general principles.

Most people would argue that if students know how to apply theories and general principles, they are much better off than if they have only a collection of technical skills, for the theoretical knowledge enables them to recognize situations as examples of principles and then to use the principles to decide what to do. But there are difficulties with this form of expertise as well. One is that, in many situations, more than one principle will apply. A teacher, for example, may assess a situation as an example of a particular learning principle, a particular teaching principle, a particular principle of group behavior, or something else. If these different principles suggest different courses of action, even the teacher with a strong grounding in theory and principle will not know what to do. He or she will be forced to make some kind of professional judgement that goes beyond what was covered in teacher education.

The third form of expertise I found is critical analysis. This form of expertise is ideally suited to multifaceted situations such as the one I just described. It is the main form of expertise provided by law schools, which want to teach their students to think like lawyers. The goal is not to transmit a finite body of knowledge to be received passively by students but instead to transform the individual into a person who actually thinks differently than he or she did before. In law schools, students learn critical analysis by studying and debating cases.

Law schools are generally perceived to be enormously successful at preparing their students to be good critical analysts. But law schools are also criticized heavily for paying too much attention to thinking like a lawyer and not enough attention to acting like a lawyer. Graduates of law schools complain that they have not learned the technical skills of lawyering, and employers of graduates complain that their new employees are good at analyzing cases but cannot seem to make decisions about them. So critical analysis helps lawyers think like lawyers, but it does not mobilize them for action.

The fourth kind of expertise that I identified is deliberate action. It combines features from some of the kinds of expertise I've already talked about. I use the term "deliberate" to suggest that there is an analytic activity going on but that it is connected to action. Another term that is popular right now is "reflection." People talk a lot about reflective teachers. I felt that the term deliberate made it more clear that the thinking was connected to action. I wanted to make a distinction between this form of expertise and critical analysis, which I had defined as a reflection almost unrelated to action.

So this fourth one I called deliberate action. It is similar to the third in the sense that it does require people to be transformed in some way. There is not a body of knowledge about how to deliberate that we can just hand over to people and expect them to be able to apply it. Instead our task has to be to somehow give them practice, to bury them in the profession itself in a way that they learn to deliberate about their actions and to become deliberate actors.

One field where deliberate action is often discussed is architecture. It is a little easier to see how an architect could be a deliberate actor: Architects do in fact draw out their plans before they implement them, and a great deal of the activity of architecture schools is devoted to having people learn how to plan and replan. Architects must know how to develop a plan, examine it, see its flaws, revise--you move a wall over here, turn the building at a different angle, grade the earth in a different way or even change your goal because this one simply is not going to work. In architecture schools, students take a course called studio design, which follows courses in theory and building structure. The studio design is the time when they are to bring it all together and to learn how to deliberate and to plan their architectural actions.

The advantage of deliberate action is that knowledge is tied to action so we do not have the problem of an overemphasis on action as we do with technical skills or an overemphasis on thought without action as we do with critical analysis. So deliberate action seems like it kind of ties together the things that we want tied together. It entails a careful judgment but the judgment is connected to action. It is not purely an intellectual exercise. It acknowledges that situations are multifaceted, that there may not be a particular rule as a general principle that we would guarantee would apply to a particular situation. Deliberate action assumes that situations are going to be complicated and will require professional judgement and that we should somehow prepare people for that. So on its surface the notion of deliberate action sounds like it might be the kind of expertise that many of us want. I was interested to see though that Rhonda, who is our exemplification of deliberate action, was not in fact the most popular in all cases.

But there are drawbacks to this kind of expertise also. One is that, of all of the forms of expertise, this one is the least clearly defined; consequently if we set out to produce people whom we would expect to be deliberate actors we are probably more likely to fail. We do not know for sure what it is that makes a person a good deliberate actor. Nor do we have a clear sense of the conditions you would have to provide to make sure that your students wound up being that way. So we could easily produce people who are simply confused when they go out into practice--people who are not deliberate actors and are not capable of becoming so.

Deliberate action also is troublesome in that it can be construed as being such a relativistic notion of what is "right" practice that there is no standard anymore to guide behavior. The analogy that I think of in this regard has to do with hiring decisions. We have gone through a period in our country where we have created all kinds of rules and procedures about hiring in order to try and alter behavior patterns and increase the number of minorities and women--and others who are not from the mainstream-- who get hired. The problem with all of these is that you can have a situation where each individual hiring decision is very easily justified even if the set of decisions does not seem right. If we were to sit down and ask the hirers how they weighed the different candidates, what they thought about and why they decided on the one they did, each individual judgement could be easily justified and we could easily say: "Well, yes, this is a good example of deliberate action. A great deal of thought went into this decision and the judgement was justifiable and professionally sound." Yet when we look at a collection of hiring decisions we can find that in fact every candidate that was hired was a white male and in fact even though the decisions individually seem to have some merit, collectively we would look at them and say this is not really the kind of thing that we would want to have happening.

When we take deliberate action as our goal we run the risk of making decisions become more relativistic because we are saying we know that general principles do not apply in every situation. We expect the individual to weigh the situation and to use professional judgement to decide what's best. We also are willing to assume that the individual in the situation is the only one who really knows what was the best thing to do in that situation. In our most ideal world, that is what we would like to think professional behavior is. But there are problems if we take deliberate action as the central form of expertise toward which we should be oriented.

All of the professions that I looked at tend to vacillate among these different kinds of expertise, and there are pendulum swings in the different professions. For instance, engineering went through a big competency education movement a couple of decades ago and then it moved, as business did, in a very conscious way--there were many task forces and group reports and professional goal statements--toward general principles and theory as being the content of engineering courses. I found a paper written just last year by an engineer who was complaining that the pendulum had gone way to far toward theory and principles. The way he described it was by talking about the content of the courses in the engineering curriculum relative to the tasks of the engineer. The courses all were "ics"--mechanics and electronics and physics--and the engineering content was all "ing"--drafting and negotiating and selling and planning and so forth. He was pointing out that somehow something had gone awry in the curriculum of engineering. All of the professions, and teaching is no exception, vacillate among these different ideas about expertise. I was fascinated to see how we all vacillated among them with these caricature examples that we have spent the morning stewing over.

As I listened to the conversation, one of the things I was trying to do is to figure out the extent to which we are similar or different from other professions. There are many ways in which we are similar. I think we are similar in that all of us are aware of these different kinds of expertise. I think most professions can articulate some of them--they may use different language than we have and they may use different language to describe the education courses that they provide to their budding professionals, but the ideas are similar and the frustrations are similar and the tensions are similar.

But I think there is more variance within our profession at any given moment. I was really surprised at how differently people in this room responded to the candidates we described. Sometimes there was a group that was fairly homogeneous but certainly when you looked across the groups you could not say that there was a homogeneous sense of what kind of expertise would be most valued. And while other professions do tend to vacillate over time at least the impression I got from my readings was that within a given time they are relatively homogeneous--that they have a shared sense for what it is they're trying to do together.

Second, I think forms of expertise in teaching are more tied to content of expertise than in other professions. This may be a function of the more premature stage of development we are in, but when we were trying to develop these characters for you it was impossible to talk about, for instance, critical analysis, in which reflection is separated from action, without making the character a liberal arts student. So the form of expertise-as-critical-analysis was confounded with the content of subject matter knowledge. And in other areas, such as theory, we tended to assume that the theory was in child development. I think that is because that is where we have theory. We don't have theory about teaching or about classrooms as social organizations. I mean there are some bits and pieces around, but to say that theory has developed up to the level of real theory with a capital T, we would have to say that that has only happened in the area of child development. So to some extent when we try and describe a person who knows theory really well we tend to assume that person must know child development. Then when we contrast that person with our critical analyst we are contrasting someone who knows child development with someone who knows subject matter, as well as contrasting someone who applies theoretical principles with someone who is a critical analyst. I'm not sure that this is unique to education but it was one of the things I noticed when we went through this exercise: that there is a relationship between forms of expertise and content of expertise.

A third thing I noticed was, and this really surprised me, that we tended to assume or at least many of us did that the type of expertise depended on the situation and I don't think any other profession does that. When people prepare engineers they assume that they are engineers regardless of where they are working or who their clients are. When we talked in these groups about the types of teachers we wanted there was an inclination to think that this one would be all right in a private school or that another one might be better with gifted students, or we did not know if this one would work with a disadvantaged student, or we thought maybe this one would be better in one grade level than that one. That was quite a surprise, the extent to which we thought that the nature of the desirable expertise differed with the nature of the student. And as I said I think physicians assume a physician is a physician is a physician. I know lawyers do. It has been a big issue in lawyering whether or not you should even specialize as a student in contract law as opposed to litigation law or something. The assumption in law school is a lawyer is a lawyer is a lawyer. You learn to think like a lawyer and then you apply that to whatever the context. Yet when we talked about teaching expertise it seemed to depend on the context. I do not know whether that's good or bad but that is what we said today.

# SESSION C

# EXPLORATORY SITE VISITS: ISSUES AND QUESTIONS

# INTRODUCTION

## Sharon Feiman-Nemser

In late Fall 1986 the Center conducted exploratory visits to 20 teacher education programs and alternatives around the country. The programs included preservice, induction, inservice, and alternative route sites. The main purpose of the visits was to gather information to help in selecting a smaller set of programs for intensive study. The visits also allowed us to begin exploring key research issues, to test our strategies for gathering programmatic data, and to refine our research design.

In choosing sites to visit, we began with some general ideas about the types of programs we wanted to study. The terms of our grant require that we concentrate most of our efforts on preservice preparation. Within that category we wanted to include important structural variation (e.g., undergraduate and fifth-year programs) and different institutional types (e.g., large universities and small liberal arts colleges). We broadened the definition of preservice preparation to include induction programs and alternatives routes to teaching. Because of our interest in teacher learning, we also wanted to include programs for teachers at different stages in their careers. Our focus on learning to teach academic subjects, especially mathematics and writing, led us to programs with special emphasis on these curricular areas.

We sought nominations, asked people familiar with programs to confirm whether they had the reputed characteristics, developed a set of decision rules, and winnowed the list down to a reasonable number of sites that we could visit. During the visits, a Center researcher interviewed key faculty, staff, and administrators. Researchers focused their questions on program purposes, organization and rationale; staff and clientele; the history and policy context of the program; and the approaches to teaching mathematics and writing promoted by the program. We also asked about the kind of teaching that programs were trying to foster and about learning to teach.

After summarizing responses to interview questions, each researcher prepared a site report covering the topics listed above. These reports, verified by the sites, informed our decisions about site selection. We also used what we learned about programs to plan our second look at the 11 programs in our intensive sample. Finally, data from these exploratory visits enabled us to begin examining the purposes, character, and quality of teacher education programs in relation to the teaching of mathematics and writing. Several researchers did preliminary analyses of emergent themes and key research questions.

We would like to share some questions and issues that emerged from these preliminary analyses. While our initial observations are quite tentative, they raise important questions--about curriculum and subject matter, students and context--teaching and learning to teach--for teacher education practitioners to ponder. What sources of knowledge do teacher educators draw on in planning their curriculum? How do teacher educators talk about the nature of pedagogical knowledge and its relation to subject matter knowledge? How do programs seem to be influenced by their students and by the schools where they will teach? What ideas about learning to teach are reflected in different teacher education programs?

The following presentations describe our initial reactions to the site visits. Marianne Amarel discusses sources of knowledge, Tom Good considers the relationship of subject matter knowledge and pedagogy, and Barbara Neufeld reflects on issues of context. We also include a paper by Sharon Feiman-Nemser on learning to teach that was prepared for the retreat.

# THE SOURCES OF KNOWLEDGE FOR TEACHER PREPARATION PROGRAMS: THE VIEWS OF TEACHER EDUCATORS

Marianne Amarel, NCRTE Researcher

An early goal for the National Center for Research on Teacher Education was the generation of an initial data base on a sample of teacher education programs to guide the formulation and refinement of research questions. We made 20 site visits to a variety of programs in the Fall of 1986. In gathering information about the programs we focused primary attention on teacher educators' own descriptions and perceptions in an effort to gain understanding of the programs from the perspective of those who are currently implementing them.

In our initial analyses, we approached the data with a set of broad, thematic questions. This paper focuses on the primary sources of knowledge for teacher education programs. The tentative observations that follow bear selectively on how teacher educators talk about this issue. First, I describe some general characteristics of the responses that relate to how sources of knowledge are construed. Next, I sketch a map of these sources for the academic components of the programs without distinguishing individual programs.

## Curricular Language

The discourse of teacher educators, as reflected in the exploratory interviews, has a fluid nomenclature and few common technical terms. The same labels refer to a wide range of concepts, practices, and beliefs. A statement that learning theory, human development, or research on teaching is a feature of the curriculum can signify rather different content and exposure in the various programs. Similarly, phrases such as "reflective teaching," "teacher as decision maker," or "effective teaching" can carry vastly different meanings.

The loose coupling of curricular terms to their referents raises issues for both researcher and reformer. The interpretation of faculty responses becomes highly context-bound, in that the meaning of specific responses requires supporting information from the whole program. Thus we are left with little "raw data," since responses need to be interpreted before they can be aggregated.

The ambiguity of terms makes it difficult to talk about and think about the knowledge base of teaching. Using more carefully standardized interview questions is unlikely to resolve this problem. Yet we must understand the use and meaning of curricular terms in order to describe and analyze programs.

## Program Diversity

The case studies also illustrate a common aspect of educational programs--that they encompass considerable internal variation. While each program presents a distinct character by way of goal statements, formal announcements, or structural features, the responses of individual faculty within most sites vary considerably. Even though programs tend to emphasize a select domain of knowledge or skills in their goal statements, faculties across programs often propose a similar set of topics for the curriculum of teacher education. An alternate route program that admits college graduates with an academic major and requires 200 additional hours of study in the professional component of teacher preparation provides an instructive example. In this compressed time frame, the program sets out to "cover" the topics of "human development, learning theory, teaching methods, some foundations of education, role of the school, discipline, testing, grading, dealing with administration . . . behavioral sciences, curriculum." Several preservice programs feature a similar array of curriculum topics.

Depending on the level of analysis, we can arrive at different interpretations of the curriculum. If we take the program as the primary unit of analysis, a comparison of programs would suggest an unbridled variety of models for educating teachers. If we compare the components or topics that are included in the various programs, we find a fair amount of agreement on the critical knowledge sources of teacher education. Is there more similarity among programs than meets the ear or do common labels mask dissimilar content and practices?

## Knowledge Sources for the Curriculum

In discussing the sources of knowledge that teacher education draws on, we need to make a slippery but critical distinction between sources of knowledge for teaching and sources of knowledge for teacher education. The knowledge base of teaching is a major, but not exclusive, basis for the professional curriculum. Identifying the knowledge base for teaching and its sources has been a major preoccupation of researchers for some time. For example, Shulman (1986) has recently provided a conceptual map and set of categories for describing the knowledge base of teaching. Since we are interested in how teacher educators think about the teacher education curriculum, we will use their categories.

Two kinds of data inform the question of sources for the teacher education: (a) official descriptions of the curriculum that are the institutional expressions of what prospective teachers should or may learn in a particular program; and (b) interviews with teacher educators. The interviews did not specifically ask about sources of knowledge for the curriculum; rather questions about program goals, what teachers need to know, and conceptions of effective teaching provided responses relevant to this issue.

The responses reveal dual perspectives: The faculty speak as instructors in a particular program and as individuals expressing their own points of view. Just as programs reflect assumptions about essential knowledge for teaching, so individual faculty entertain premises and hold beliefs and values about curriculum. Our interest here is in faculty's expressions of personal views that may differ from institutional goals expressed at the program level.

The structural division of teacher preparation programs into course work and field experience also works to distinguish knowledge sources. Faculty construe what is taught and is to be learned in these two contexts of teacher education rather differently. Many programs show concern about relating these aspects, but few, if any, succeed in weaving the components of teacher education into a seamless web.

## Knowledge Sources for Course Content

The sources for course content that were prominent in faculty interviews are as follows:

1. Disciplinary content knowledge
2. Empirical research
3. Social science, humanities scholarship
4. Models, theoretical constructs
5. Mandates, policies

## 1. Disciplinary Content Knowledge

All programs expect, assume, or take for granted knowledge of school subjects on the part of their students. The responsibility for disciplinary content knowledge was mostly attributed to the arts and science faculty, which may account for the lack of specificity with which this knowledge source was treated. When pressed, many respondents mentioned deficiencies in the students in one or more content areas, but did not hold clear expectations for such knowledge. Even a program with a specific content focus stressed an approach to teaching rather than the acquisition of disciplinary knowledge. Rarely did respondents offer an elaborated view of subject matter knowledge.

Nor do the interviews offer conceptions of pedagogical content knowledge, the combined understanding of disciplinary content and pedagogy that enables teachers to modify content for instructing diverse pupils. Respondents often imply that content knowledge needs to be translated for teaching purposes but rarely elaborate further. In one case, a faculty member did engage the question, only to point to an absence of attention to the topic:

> . . . want to relate the content to the teaching methods . . . different contents have different syntax, different rules, different ways of validating knowledge, different types of questions, different ways of organizing their stuff. . . . This has an implication for teaching methods. . . . We don't play with this.

## 2. Empirical Research

The products of social science research are a major source of knowledge for both the academic and clinical components of programs. The referents of "research," however, varied greatly. In a number of programs, research consisted of one aspect of recent studies on teaching and classroom processes.

The research on effective teaching is an important basis for a number of programs. In some cases, research findings were seen as providing teaching prescriptions. Others made broader use of findings. A preservice program that seeks to prepare teachers "who are able to make decisions based on evidence and research as well as on clinical insights" drew on the literature, as did another which emphasized teacher decision making.

The use of the extant body of empirical research appears skewed in the programs. The effective teaching research is prominent, but the work on grouping, teacher beliefs, discourse analysis, for example, is all but absent in this sample of responses. More surprising, research on classroom management (other than its treatment in effective teaching) is not well cited, even though all programs see it as a critical capacity.

Research on cognitive processes is used selectively. Work on the writing process is a primary source of knowledge for two inservice programs focusing on writing. The Piagetian work on cognitive development is central to a master's level program, both as a general theory of development and as a model of subject matter learning.

### 3. Social Science, Humanities Scholarship

In addition to research on teaching, a few programs draw on a more extensive base of scholarship for foundational and broadly educative ends. The widest net is case by an undergraduate program that seeks to alert students to the complex relationships between schooling and society. Students are introduced to such major problems in education as "the push for a coherent society, the interest in protecting the rights of minorities, the tension between egalitarian ideals and the capitalist mission." Several programs allude to "organization of the school and society" but do not provide much detail about what are the sources for learning about it.

There seems to be a relationship between the way programs use research and the way faculty construe the teaching role. Programs invoking a variety of knowledge sources tend to regard teaching as a complex, hybrid activity and to work explicitly to enlarge their students' perspectives of their role. Programs with relatively narrow goals and constructions tend to limit the research knowledge deployed on behalf of their trainees.

### 4. Models, Conceptual Schemes, Theoretical Constructs

Models of effective teaching, conceptions of classroom organization, theories of development can all serve as sources of knowledge for course content. Some programs use "off the rack" models such as Madeline Hunter's. One inservice program found in the "essential elements of effective instruction" a comprehensive source for realizing program goals. "How to expediently deliver this model" was the central aim of the program. Still, the topics included under the label "effective teaching" ranged broadly. A faculty member enumerated his version:

> How students learn; planning for instruction; managing the classroom; what motivates kids, how to increase motivation; teaching for transfer . . . deciding on objectives; writing objectives; making decisions about what to teach; process to arrive at what kids must learn; how to monitor instruction myself so that I don't get off the track; soliciting feedback from the kids; how students respond to a variety of adult behaviors.

A number of programs are guided by an amalgam of two or more models and conceptions. In one preservice program, the model of "effective teaching" is fused with the concept of the "reflective teacher." A clear example of using theory as the primary source of knowledge is a preservice program with a developmental orientation. Here contemporary theories of cognitive development guide both the content and the process of training. Some inservice programs with a disciplinary focus incorporated organizational theory or an approach to teacher development with ideas about how best to teach subject matter.

This category of knowledge sources clearly overlaps with research. The distinction is blurred by the program faculty, who do not use such terms as "research," "model," "theory," in the same way and by the imprecise use of these terms in the literature--a question that merits our attention. A more substantive question is whether programs that draw on a single source to construct curriculum are distinguished in other ways from programs that draw on a greater variety of sources.

## 5. Mandates, Policies

The curriculum of teacher education is subject to legislative and less formal policy demands and constraints. Faculty may have internalized these demands, for they are rarely cited as the main force behind curricular choices. There are notable exceptions, as revealed in the following comment: "Everyone recognizes that part of our responsibility is to address those teaching competencies that have been identified by the state--if there is anything that drives the program, I think unfortunately that's it." There are programs born of policy decisions, such as a system of peer evaluation introduced in a district or the creation of the mentor teacher role. Such programs pose several questions: What new knowledge sources will play a role in their enactment of these programs and how will traditional sources of knowledge be incorporated?

## Summary

The academic component of teacher education gives only a partial view of the sources of knowledge for teacher education. To round out this theme we need an account of knowledge used in the design of field experiences. Normative and practice-related sources of knowledge are likely to emerge more strongly from this component of the programs.

The data also suggest related questions to explore. In what sense are the teaching context and the pupils a source of information for teacher education? Unlike those mentioned above, this source of knowledge has to be tapped anew in each teaching situation. Another question arises from the finding that faculty hold a conception of effective teaching that includes qualities not directly represented in the curriculum. Where and how are these qualities transmitted?

This preliminary analysis reveals some of the difficulties in identifying and describing the distinct knowledge and skills that teacher education seeks to impart. Teaching is a practical, clinical occupation, but it is also a social activity practiced informally in the course of ordinary living, much like parenting and counseling. In the absence of a recognized body of professional knowledge, people continue to resist considering the teacher of the young an expert. The language and perhaps even the dominant precepts of teacher education reflect parallel difficulties. Closely observed studies of teacher education may contribute to a better articulation of the knowledge base of teacher education.

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# CONTENT-SPECIFIC AND GENERAL PEDAGOGICAL KNOWLEDGE IN TEACHER EDUCATION PROGRAMS

Thomas L. Good, NCRTE Consultant

## Introduction

I am happy to be a part of this effort to describe what teacher education programs attempt to do, how they achieve their goals, and the effects of these programs on teacher education students. Before I discuss the interview data, however, it might be instructive to consider what the task of describing teacher education entails. In some ways, trying to describe and analyze teacher education programs is similar to the task faced by a researcher in 1950 who said, "I want to understand classrooms and talk about classrooms." Research on teaching has taken 30 years to develop a vocabulary, concepts, and structures for analyzing and conducting productive research (Brophy and Good, 1986; Evertson and Green, 1986; Good and Brophy, 1987). In teacher education, we are at the start of a long journey; it is important to recognize that our task is complex, difficult, and time-consuming. In stressing the tentative nature of our findings today, I'm not trying to create low expectations for the field or for this research effort but rather to clarify what I see as appropriate. It is appropriate to expect that developing a framework to describe teacher education programs will take time. By "wrestling" with the issues and using initial information to inform us about the next set of questions, we will have a more powerful framework.

A central purpose of our initial work is to learn how to "aim our camera." Taking pictures of the wrong subject is not going to move the field forward. The Center has only taken a few pictures so far. We want to look at them critically with your help so that we will be able to aim the camera better in the future. We do have some good pictures, but our collection needs to be ordered and missing photographs need to be added.

It will probably take a decade to develop a vocabulary and concepts that help us to think systematically about teacher education programs. Understanding a single program can be achieved in a much shorter time. Indeed, it may be necessary for us to make basic analytical distinctions about individual programs before meaningful comparisons can be made across programs.

Before I share some of my reactions to the interview data, let me clarify my perspective. Since I did not collect the interview data, I came to the task as an outsider, reading the interviews with no well developed knowledge of certain sites and with no preconceived ideas about what I would find. The major picture that emerged for me is diversity. Teacher educators talk about experience, weaknesses and strengths of their students, and what is essential to good teaching in different ways. I was also reminded that teacher educators, in whatever setting they work, are asked to do a difficult job in a short time and with limited resources. So if teacher educators are asked to talk briefly about what is central to their jobs, their descriptions are likely to be quite general. Trying to capture the essence of something that involves hundreds of variables is difficult and determining where to start is problematic. Thus we must consider whether the reported diversity (both within and across programs) accurately describes these teacher education programs or whether it results from the methodology used to obtain information about them.

Open-ended questions were posed so that people could characterize their programs in their own language and from their own perspectives. One advantage of this approach is that it allows programs to be characterized in diverse ways. A disadvantage is that it allows individuals to discuss what they find most salient. Thus it is difficult to interpret the respondents' comments and to differentiate what is salient to them from what is important. For example, if I am concerned about a critical dimension of teacher education and I spend three or four years of my professional life trying to address that issue, I will eventually be satisfied with related program changes. Two or three years later, when I'm talking about what is going on in my program, I may not refer to that issue because it has been resolved to my satisfaction. What I might talk about is an unresolved problem that may be less important in a broader sense. In other words, the fact that a teacher educator did not mention something does not necessarily mean that it isn't important and vice versa. This is the intellectual challenge we face in trying to sort out and assign some meaning to these data and plan the next research steps.

## Preliminary Findings

I was asked to read the data from the standpoint of subject matter and to assess how subject matter pedagogy was dealt with in various programs. It was also my task to assess how good teaching was viewed and to consider the particular value assigned to content-specific versus general pedagogical knowledge.

### General Teaching Knowledge

The teacher interviews provide clear evidence that general teaching knowledge is an important part of all programs. The rationale for and role of generic teaching skills varied from site to site; however, their utility was stated in virtually all cases and could be inferred in the few instances when it was not directly stated.

Generic teaching skills include basic skills that beginning teachers must master if they are to remain in the profession. One program coordinator put it this way:

> You've got those 500-600 decisions you have to make besides content--they have nothing to do with content. They have to do with "When do I transition from direct instruction to guided group practice? When do I pass out the papers? How do I get the kids involved in independent work today? What will my evaluation tool be now that kids are learning? They're not isolated; they take place in the context of the content where you're thinking of two things all the time--process and content. What am I doing and how am I doing it?"

Despite an interest in teachers being competent in teaching skills, most of the school-based programs attempted to accommodate individual differences in teaching style. One respondent noted that his program was not trying to turn out carbon copies: "We are guarding against the consulting teachers turning them into miniature versions of themselves. There are many techniques and all ought to be explored."

Furthermore, educators in various programs defined a good teacher as needing more than generic teaching skills. One respondent put it this way:

> You have to be bright. You have to like knowledge. You have to be curious. You have to like to learn. Those are the basics. Then you have to have a personality that enjoys challenge that comes from working with others. You have to be a bit of a ham, be a self-starter, have a built-in sense of humor. You have to be able to smile when there isn't much to smile about. I don't think it's any fancier than that.

Hence, respondents consistently noted that general teaching skills were critical but had to be combined with appropriate teaching dispositions and attitudes as well as the knowledge of when to use skills.

### Views of Teaching: Generic or Subject-Matter Specific

The question of whether or not good teaching differs in various subject matter areas tends to reify the distinction between subject matter versus general teaching skills. In a variety of ways, respondents expressed the belief that both are important. For example, one program coordinator who was asked to describe whether good teaching would be different in various subject matter areas initially seemed to suggest strongly that generic teaching was important.

> I think that it's generic, the kind of teaching and organization. The effective teaching we communicate across subject matter." Then the respondent added, "But there are very specific skills. For example, in English we're teaching the UCLA Writing Project [National Writing Project]; that's very specific. Also math skills, we've got a particular math person. The effective teaching we communicate across subject matter. The specific subjects, a specialist handles those.

When some respondents addressed the generic versus subject-specific knowledge issue, however, their definition of "generic" varied. For example, one teacher educator discussed the generality of good teaching: "Ideally this would not be different in the different subject areas." Another participant responded this way: "I think demonstration teaching is part and parcel of good teaching to the extent that you demonstrate to someone what you want them to do--you know it better, they understand it better, and there is greater opportunity for learning to take place." The referent for teaching here is a child-centered approach rather than teaching skills (such as clarity, enthusiasm, etc.).

Other programs also emphasize a process, although the process is not of teaching skills but of "active involvement." Here, good teaching is seen as actively involving students in writing, interviewing, responding, revising, editing, and publishing. The program regards pedagogical knowledge as generic in that principles related to the good teaching of writing are transferable across the curriculum.

Respondents not only varied in what they defined as central to a generic conception of teaching, but also in what aspects of their models of good teaching needed to change as students or other conditions of teaching changed. For example, one teacher educator indicated that the definition of good math teaching would apply to all levels except that more hands-on, concrete experience would be necessary in elementary school and more abstract presentations at higher grade levels.

Despite this variation in how respondents defined generic skills, a generic model was generally interpreted as knowledge of general teaching skills. For example, one interviewee, explaining why student teaching is a good learning experience, noted, "Students have the opportunity to gain basic skills of teaching, which include classroom management, lesson unit planning, and the creation of a child study project." Most teacher educators viewed basic skills as an important program component. One respondent did express concern about the exclusive focus on general skills, while participants in another program seemed to have a heavy commitment to a general model by choice.

Respondents generally talked about subject-specific content knowledge in vague terms. For example, a secondary math faculty member at one site said:

> I think I have a particular view of good mathematics teaching. If you're a good teacher then you have high expectations for your students. If you're teaching problem solving, the teacher would be clear on goals and objectives and how to do good planning, ways to achieve goals and objectives.

Similarly, a methods faculty member in elementary writing noted that the good teaching of writing includes many opportunities to do different kinds of writing:

> A teacher should set aside class time for writing as well as time for thinking, talking, and speech simulation activities. The teacher should set a good affective environment and be knowledgeable about the writing process. However, the writing process is not an end in itself. We are not making children into little editors.

While it seems as though these comments would come from an educational psychologist rather than a curriculum specialist, various curriculum specialists at different program sites consistently express their views in general, noncontent-specific ways.

When subject matter was introduced, it was discussed only briefly. Discussing his own goals, one teacher educator noted:

> In this course, the first goal is looking at the math content. The state has a structured set of objectives for public schools, the standards for learning. The state produces curriculum guides. We do in-depth study of standards for learning since we believe that it is mandatory that schools address the standards of learning. The other goal is working on the actual teaching process, developing the lesson plan, helping them to determine how to go beyond the textbook. They have problems in that area, dealing with resources other than just the textbook. Problems--knowing where to go for materials, how to select materials, how to seek resources that would help provide for individual differences within the classroom. Most teachers stick to the text, but we suggest that they go beyond that.

While subject matter was mentioned, participants made few meaningful distinctions. For example, when answering the question, "What would one see in the classroom?" one respondent answered,

> That depends on the subject matter . . . centers, manipulative math materials, rather than whole-class instruction; more concern with basic understanding of concepts than with learning algorithms; less paper and pencil, more activity; in science, lots of hands-on stuff and science as a process rather than science as facts.

Stated as vague beliefs, these descriptions convey little information about _why_ teaching varies with subject matter. It is difficult to believe that all science concepts need to be taught differently from mathematics concepts or that all science concepts need to be taught in the same way. Are density, photosynthesis, mass, and evolution taught the same way?

When respondents were asked to describe effective teaching, their answers were varied and focused on _activity_ as opposed to _content_. For example, one teacher educator stated,

> This type of teaching would mean that one expects teachers to be moving . . . you would not see the teacher sitting down doing round-robin reading, I promise you that. Good teaching differs some according to the activity being done, but not necessarily the subject matter. But in all cases, I wouldn't expect to see the teacher sitting. I don't care what she's doing, but all of those students would have different abilities, and she would have to make every student in that room comfortable . . . with that material.

In examining participants' views about good teaching, we discovered multiple views of what generic good teaching represents. Some participants believed that skills and dispositions identified by recent research on teaching (enthusiasm, clarity, etc.) were at the heart of a general model of good teaching. A distinctly different model was a child-centered orientation (build on student interest; attend to students' developmental level; provide opportunities for self-expression, etc.). Others expressed a view of good teaching that was activity driven. In this sense, good teaching involved getting students to do more than sit and listen. Yet a different definition of good teaching was based on the need for teachers to have appropriate dispositions. Views of appropriate dispositions, however, varied (lifelong learners, openness to experiences, warmth, ability to reflect, etc.). Overall general, most participants held relatively complex views of good teaching.

## Subject Matter Knowledge and Pedagogy

Shulman and Sykes (1986) contend that content-specific pedagogical knowledge is one kind of extensive professional understanding that should distinguish a teacher education major from a subject matter major. A teacher understands how to transform content knowledge into knowledge for teaching with all that such transformation entails. After establishing understanding of the structure of the subject to be taught and the adequacy with which available text material reflects that structure, a teacher must be able to generate alternative pedagogical representations of ideas. What examples from everyday life, from a subject itself, from other disciplines, can be suggested and elaborated? What features must be reordered, emphasized, restructured, and so forth, to render a subject learnable by a given group of students?

In some programs, grounding in subject matter pedagogy appeared to be a catch-as-catch-can arrangement. One faculty member who was asked about elementary and secondary math methods responded somewhat defensively: "I kind of plead the Fifth Amendment like everybody in Washington does. They learn the concepts in the math department. In the curriculum class, they look more at the instructional strategies." The instructor provided no explanation of these instructional strategies.

Although there is very little information in the site reports about what subject matter specialists in various academic departments think, there is some reason to believe that simply leaving content course work to academic departments may not be a satisfactory solution. For example, an interview with the chairman of the English department at one program site gave the impression that the department was not concerned with specific educational objectives. Under such an orientation, ideas about how to teach different concepts are not likely to be discussed in English courses. Indeed, the coordinator of the English education program at one site noted that most teachers of English content courses rarely address the issue of how the content should be presented to high school students. It seems apparent that in some programs education faculty members want the "structure of the discipline" to be emphasized in arts and sciences courses. Responses from arts and science faculty indicated that specialized knowledge was more likely to be presented than a broad overview of the discipline.

The following quote illustrates the vagueness of comments about teaching subject matter concepts. One respondent said: "Like this week, we've been working on geometric construction, and with a college class you'd probably have them always do it with a compass and straightedge, but since these students are going to be elementary teachers, I've had them do it both ways--with a straightedge compass and with wax paper." The respondent also said that the attention she gives to methods is atypical for this course: "Some of the math professors who teach it just go straight through the content because you have so much to cover in such a short period of time."

Surprisingly, there was little discussion of mathematics, even in specialized programs. According to one respondent, students should be engaged in "messing around with numbers or patterns . . . to see how they work." And in drawing conclusions, the informant stated, "Students should work in small groups a substantial amount of time. The teacher's role is to monitor what pupils are doing and offer challenges." It is not clear what teachers should look for and what constitutes a challenge. The program's emphasis appears to be not so much on mathematics as on a set of beliefs about and commitments toward learners and learning in general and on teaching skills associated with those beliefs (e.g., asking probing questions to help pupils clarify their ideas). One wonders how teachers can do this if they have a weak math background.

## Future Issues

### Interviews with Content Specialists

The exploratory interviews did not include many individuals who teach content specialty courses. How do mathematics, English, or physics teachers think about issues of generic teaching skills and subject-specific teaching in their own classes? Do mathematics professors have different theories about how to teach integers versus set? Do physics instructors have various models for teaching the concept of density versus mass? Can instructors identify content that is critical for elementary school, middle school, or secondary students to master? If arts and science instructors offer sections for teachers, is the content different from that offered to regular arts and science majors? Is there any evidence that arts and science faculty discuss critical content-specific issues that can be characterized broadly as methods instruction?

## Education Method Instructors

Future interviews with methods instructors should focus more on content and subject-specific knowledge. Most important, we need to encourage methods instructors to discuss subject matter concepts that preservice teachers need to learn if they are to teach successfully at elementary, middle, and secondary levels. One important contribution that the Center can make is to identify such concepts in various subjects taught in the public schools. It would also be useful to have methods instructors discuss how and whether the teaching of these concepts varies. For example, does the mathematics education instructor use various approaches to teach different operations? How do methods instructors think about teaching different concepts? Finally, we should ask methods instructors to identify concepts that are most difficult for them to present to students and to explain why those concepts are difficult to teach and how they attempt to overcome those difficulties.

It might be instructive to have methods instructors describe content in various areas. For example, one could ask mathematics and social studies educators to respond to general questions like the following: How would you teach the following basic _facts_ in mathematics: 4 x 5, 5 x 4, 2 x 5, 5 x 2 . . . ? How would you alter instruction if you were instead trying to teach students geography _facts_ such as the state capitals? In contrast, if you were teaching _concepts_ such as division or democracy, how would your approach be different in the two areas? Would there be more similarities in teaching facts and teaching a concept within one subject or more similarities in the subject matter-specific issues (mathematics versus social studies)?

In programs where the subject matter methods instructors tend to be generalists, we might be able to identify some interesting creative syntheses across areas. In contrast, when dealing with specialists, we are more likely to find subtle, important differences in approaching concepts within a discipline.

At any rate, researchers should examine crucial concepts within subject matter areas and study the extent to which concepts within subjects are taught differently. For example, are democracy and supply and demand taught in different ways? Would subject matter-specific knowledge lead to those concepts being taught somewhat differently? It may be that in areas in which concepts can be applied in many diverse contexts there are few differences in content teaching. In contrast, in other areas, such as mathematics where much content has specific abstract value, there may be unique teaching models for many areas. For example, each of the operations (division, multiplication, etc.) may be taught with a different model, but terms such as "triangle," "circle," "inch," and "meter" maybe taught as vocabulary is taught in any subject.

It would be fascinating to see how specialists define the core elements of subject matter in different areas. For example, what are the basic concepts in reading (vocabulary, inference generation, understanding plot)? What do specialists in physical education view as the critical subject matter key concepts and skills (sportsmanship, conditioning, rules of games)? Do these subject-specific strategies mean that teaching in one area, such as swimming, differs from teaching soccer or basketball?

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# HOW PROGRAMS ARE INFLUENCED BY THEIR LEARNERS AND THE SCHOOLS IN WHICH THEY WILL TEACH

Barbara Neufeld, NCRTE Researcher

During the exploratory visits last fall and winter we asked a lot of questions about program's purposes, the ways in which programs were organized to achieve those purposes and the characteristics of students enrolled in the various programs. We were interested in how program faculty went about educating teachers, about how participants were influenced by programs. We did not directly ask about the ways in which the students--who they are and what they are like--influence programs' purposes or designs. Nor did we ask about the ways in which the elementary and secondary schools in which they do or will teach influence programs' purposes, design and implementation.

Still, many of you spoke about these issues, discussed how you dealt with them, and raised provocative points that we believe are worth sharing in this forum. As a result, we are taking this opportunity to pursue them with you. We emphasize that not all the people we interviewed raised these issues, although some did at the preservice, inservice, and induction levels did, nor did everyone speak of them with the same depth or intensity. Our data, then, are incomplete, and our discussion necessarily preliminary. But, you raised the issues and they are worth considering now and as we endeavor to understand both the influence of teacher education programs on teachers and the influence of teacher education students and elementary and secondary schools on programs.

We begin with a discussion of an issue related to students' characteristics: the kind of preparation students bring to various teacher education programs and the ways in which this influences programs. Then we discuss the influence of elementary and secondary schools on programs' ideas about purpose.

## I. Students' Preparation

"Preparation" for the range of programs that you represent includes (a) academic preparation for all stages of teacher education, (b) completion of an undergraduate degree for alternate route and induction programs, and (c) all of the above plus classroom teaching experience for inservice programs. For the purposes of this brief paper, we will consider two characteristics of students' preparation: (a) academic preparation in mathematics and writing and (b) independent learning skills. Both of these are related to programs' admission standards, the baseline preparation level from which faculty work to accomplish their purposes. Admission standards and the resultant student preparation can make the program's job more or less difficult. The programs you represent include some with highly selective admissions policies, some with relatively open admissions policies, and some that distribute themselves between the two extremes.

### Academic Preparation

Regardless of the stringency of admission standards, program personnel encounter students who need remedial or additional education that they consider essential and which they believe should occur prior to their specific teacher education program. Stated a bit differently, faculty in programs with highly selective admission standards do not necessarily describe their students as "perfectly prepared," although the complexity of the remedial or new educational tasks facing them differ significantly from those facing faculty in less selective programs. For example, staff in programs across the range of admission criteria are dissatisfied to some extent with their students' writing skills. The students' absolute skills vary considerably, however, as a function of admission criteria (which is to say, previous education) and therefore, so does the task of improving those writing skills. Some of you described students who had never written more than three-page essays in their freshman and sophomore liberal arts courses; others of you talked about students' who wrote extensively and well but lacked skill in a particular expository style. The same kind of variation characterizes students' entering level of mathematics knowledge. The academic preparation students bring and the ultimate achievement level that the program staff expects interact and influence the difficulty of the program's task.

## Independent Learning Skills

Another quality or skill that teacher educators value is students' ability to learn on their own. Faculty and staff in preservice, alternate route, and induction programs recognize that they are preparing and working with beginning teachers who will need to learn more than what can be learned in a formal program and that what they will need to learn will depend on what and where they end up teaching. As a result, program staff see teachers as people who need to learn how to go about defining and structuring their own learning experiences. They talk about students as needing to be independent learners and reflective practitioners. These skills and qualities are emphasized by inservice programs as well.

Students are not selected on the basis of their ability to learn independently; however, because of other selection factors, some programs end up with more or fewer students with these skills. Independent learning skills influence the faculty's ability to increase students' academic knowledge. They also influence the extent to which faculty believe they can prepare teachers who will continue to learn while "on the job," a critical issue for inservice as well as preservice programs. With respect to independent learning skills, for example, one small program has been able to educate secondary school preservice students in the teaching methods of a range of academic disciplines because students have the skill to organize learning subject-specific methods with minimal (but sufficient) faculty support. As with academic preparation, what students bring to programs in the way of independent learning skills influences those programs.

## How Do Program Faculty Respond to Students' Preparation?

Program faculty and staff can identify student's strengths and weaknesses; not all programs, however, work to increase students' knowledge or skill in areas judged deficient. Some work around what students bring while others actively attempt to teach what they believe students need to know. We do not have a clear understanding of factors that influence teacher educators' stance on this issue and describe our findings from the exploratory visits to raise questions and spark discussion rather than to draw conclusions.

We want to emphasize, however, that the difficulty of the task does not seem to be directly related to whether or to what extent teacher educator choose to "fix" their students. In selective programs, some faculty choose and others choose not to remediate perceived student deficiencies.[1]

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[1] When students do not have the content knowledge or independent learning skills desired, faculty talk about students' "lack" or "limited understanding" or "poor subject matter knowledge." The terms reflect the idea of "deficit": The issue for the program is whether or not to fix the deficit. In some programs, faculty talked explicitly about "fixing" through the provision of remedial instruction; when they did not, the idea of deficit or lack was explicit and the need for remedial work was implicit. For this reason, we use various forms of "remediate" in this discussion.

Likewise, in less selective programs, perceived student deficiencies may or may not be perceived. Without making this connection explicit, one might assume that programs with minimal "remediation" needs undertake them while those with more serious problems do not. Or the reverse. Our data suggest that the connections between admissions standards and remediation efforts are not so straightforward.

Given variation in admission standards and in absolute levels of preparation for the teacher education program, what are the responses that program faculty consider and choose?

1. Programs that "fill in the gaps." Some program staff identify their students' strengths and weaknesses and, within the teacher education program, target instruction to remedy the weaknesses so that they can implement the kind of teacher education program they prefer. One program, for example, has a complicated diagnostic approach to remediation that begins when students enroll. Testing identifies students' specific academic needs and appropriate instruction is then provided. Another program emphasizes improving students' writing by making writing an integral part of the initial teacher education foundations course. Both programs accept as their responsibility the job of teaching students what they want them to know prior to and during teacher education. The success with which they accomplish their goal, to some extent, depends on the magnitude of what they are asking of themselves and the goals they choose given that magnitude. Nonetheless, they take on the task.

Faculty in these programs make two kinds of statements that appear to differentiate them from faculty in programs that make different choices with respect to filling in the gaps. They say (a) we must teach students what they need to know and (b) we can, we know how to do this teaching. Faculty in a few programs try to improve students' preparation by influencing what students learn prior to teacher education. For example, some programs have increased their admission standards, requiring more mathematics and/or English. Others have increased course requirements and/or instituted specific basic skills tests that must be passed prior to entry into the professional sequence. In taking this approach, faculty members recognize their students' weaknesses, but place responsibility for remedying those deficits in programs outside of education.

2. Programs that "work around" the gaps. In contrast to programs that "fill in the gaps"--or try to get someone else to fill them in whatever their size and scope--are programs whose students are described as academically deficient, but whose faculty do not see their role as remediation. We place in this category programs whose students are described as lacking the fundamental conceptual understandings of mathematics that would enable them to learn to teach math in the exploratory, experiential way the faculty prefer or programs whose students are described as having written so little in their previous academic careers that they are unprepared to teach writing as the faculty would prefer. We also include in this category programs where faculty have tried the remedies identified above--increased entrance requirements and basic skills testing, for example--and have found them insufficient. What distinguishes these programs from the first group, is that the faculty have not taken it upon themselves within the teacher education program to teach those things they believe that students need.

In the 20 programs that we visited, we found two different approaches to this problem. Sometimes faculty and staff work around the students' weaknesses, that is, they do the best they can to teach what they wish to teach given the students' preparation. Or, they reorient their program or specific course and teach something or some way other than what they would prefer. For example, faculty in one program that provides an inquiry-oriented approach to mathematics teaching describe teaching that approach to students who do not fully understand the mathematical concepts. They describe students as working hard to understand the approach but doubt that they will be able to use it in their classrooms. Another program offers a nonexploratory, nonexperiential math methods course because faculty believe that students, because of their limited math knowledge, will rely on textbooks and other structured materials. Faculty have made these compromises as a function of the students they have and their perception of what they can do in light of those students.

## Why Do Program Staff Make the Choices They Do?

At this point, we have only inklings of factors that influence the decisions of program staff. A passion and sense of mission seems to drive those programs that take on the tasks of filling in the gaps, especially with respect to academic knowledge. Equally important, the faculty believe they know how to do the job well enough to make trying worth the effort. But even with passion, most teacher educators have doubts about their ability to teach independent learning skills to students who have completed many years of schooling without them. When students enter with these skills, program faculty do not worry about teaching them. The remainder lament that the skills are missing but teach as if they existed or work around them.

At this point we have many questions about what else might influence these decisions. We want to ask whether the extent to which program faculty have a clear view of good teaching around which there is consensus might be related to decisions to take on remediation efforts. We wonder whether some views of good teaching might better lend themselves to remediation efforts.

And we wonder whether programs where faculty consistently model what they want teachers to do in the schools are more likely to accept the remediation task as legitimate. Finally, it is possible, perhaps likely, that history, organization, size, and political context influence what teacher educators choose to do about students' preparation. We have yet to pursue these connections and provide them as suggestions, as ideas to be discussed but not as conclusions or even hypotheses.

## II. Influence of Schools in Which Teachers (Will) Teach

Although we did not ask directly about the schools in which students would eventually teach, faculty talked about their understanding of the public school setting and the ways in which that setting influences what and how they teach preservice and alternate route teachers in particular. Their concerns and dilemmas centered on a view of what was possible in the public school classroom in the context of growing pressure for accountability and on the educational needs and demands of certain segments of the public school population.

First, faculty expressed concerns about the test-driven, basic skills orientation of much public school curriculum and instruction. They believe that schools need to elaborate the range of theoretical constructs, teaching strategies, teaching organizations, and curriculum in use. The orientation to teaching and learning they describe affects their program in two ways. It limits the range of teaching opportunities future teachers can observe and model in programs' field experience components. And, if a program promotes a currently "out-of-vogue" approach to teaching and learning, its teachers may be ill prepared for both practicum experiences and the reality of school system requirements. Teacher educators want to resist pressure to prepare teachers who "fit in" to classroom instructional patterns they consider hazardous to students and teachers, but they fear the consequences of preparing teachers who cannot succeed in schools as they are.

Second, in some programs, teachers are prepared to work with specific student populations, in particular, inner-city and/or poor and minority youth. Views of those youth and of the background, strengths, and weaknesses of its own teacher education students influence programs' content. Such considerations have led to an emphasis on "survival skills," cultural differences, and highly structured teaching strategies in some programs. We wonder, whether different knowledge and skills would be stressed if teachers were being prepared for a different population? What are the benefits and liabilities of taking a population-specific view of teacher education?

In addition to worrying about what their teacher education students can do, what the public schools will permit, and what particular groups of children require, program coordinators also think about whether, to what extent, and how to prepare teachers capable of influencing school change. Our interviews with you suggest that programs are thinking about developing teachers who can make changes, but, in practice, emphasize "fitting in." This occurs with varying levels of guilt.

When we think about the ideas that program coordinators, faculty and staff have about the schools in which their students will teach, we are curious about whether those ideas come from field experience sites, from program graduates who return and tell of their experiences, or from ideas about different kinds of students and what those students can do. We want to know whether program personnel have faced the consequences of preparing teachers who do not fit in and what those consequences were. And we wonder what skills and dispositions teachers need if they are to function as change agents and where and how programs might (or do) teach them. These questions will help guide our second round of program interviews.

# LEARNING TO TEACH[1]

Sharon Feiman-Nemser

Teacher education is generally regarded as a weak intervention and various reasons have been put forward to explain this state of affairs. Some explanations focus attention on the character and quality of teacher education itself--for example, the lack of a strong knowledge base to transmit, the weak links between theory and practice, insufficient coordination between the university and the field, the brevity of the experience overall. Other explanations focus on the powerful influence of early schooling or on-the-job experience in shaping what teachers do and how they think about their work. In fact, we know relatively little about the curriculum and pedagogy of teacher education, about the effects of programs on teachers' learning, about the impact of teacher education compared with the impact of early schooling, liberal arts, teaching experience.

The Center is exploring the role of formal teacher education in learning to teach. To do this we are studying how teachers' knowledge, skills and dispositions change as they proceed through different teacher education programs. We are also examining the impact of formal teacher education compared with the impact of other influences on learning to teach. Finally, we are looking at how different approaches and alternatives to teacher education try to help teachers at different stages learn what they need to know. This focus on the character and quality of programs and on their purpose vis-a-vis learning to teach constitutes the major focus of our program studies.

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[1] This exploratory analysis was prepared for the retreat but not presented because of time considerations.

## Stated Purposes and Stage of Development

We have deliberately included in our study programs of initial preparation, programs that support teachers' entry into teaching, and programs that are directed toward experienced teachers. This enables us to raise questions about the special contribution of teacher education at different points in teachers' development. What do teacher educators at different stages expect their clients to come with and what do they try to provide? Are there some aspects of teaching that teacher educators believe should be taught before someone begins to teach and other aspects that can best be learned after someone has taught a while? Knowing more about what different programs at different career stages are trying to accomplish and how teacher educators think about their contribution to teachers' learning can shed light on this issue. The exploratory program data provide an interesting starting point.

How comparable are the stated purposes of programs at a given stage in teacher development? Are there any patterns in the stated goals of teacher educators across stages? In the exploratory interviews, we asked people to characterize the purpose of their programs and to talk about what they were trying to accomplish. Clustering together responses at the preservice, induction, and inservice levels reveals some interesting similarities and differences in stated purpose.

### Preservice

Most of the preservice teacher educators in our sample acknowledged that their programs could not prepare finished products. In fact, several stated that they were trying to prepare their graduates to learn from teaching. One instructor said:

> My goal is to get them into classrooms with the right set of questions in their head, with a certain consciousness so that they can begin to ask the kinds of questions a practitioner asks instead of the kinds of questions an undergraduate asks.

Another observed: "We don't train teachers, we train student teachers and then they go out and learn in the socialization process. I think what we're trying to do is give them the tools for their ongoing professional development." Still a third commented: "We accept it as a basic premise that at the end of four years here they have a lot more to grow." A different position was articulated by a preservice instructor in a five-year program who said: "By the time students finish this experience, they should be ready to take charge of a classroom and be able to plan for everything."

These responses raise questions about the role of initial teacher preparation, especially as it is carried out in university programs. What do such programs try to provide prospective teachers in the way of knowledge, skills, and dispositions and what do they assume that teachers will learn on the job? In what sense are programs preparing people for teaching? In a classic essay on the relation between theory and practice in education, Dewey (1904/1965) distinguished between programs that try to help teachers master the craft of teaching and programs that seek to help them develop the intellectual tools for independent mastery of the craft. Does this distinction capture actual differences among our programs in their orientation to initial preparation? What does preparation look like in alternate route programs where formal teacher education is folded into the first year of teaching?

## Entry Into Teaching

How do teacher educators in induction programs articulate their purposes? If they expect teachers to arrive already prepared for teaching, how do they construe their function? If they see themselves as contributing to teachers' preparation for teaching, what does that mean? The exploratory data are suggestive.

While people in the alternate route programs talk about "preparing effective beginning teachers," some people in induction programs talk about "fine tuning" existing skills and helping new teachers have a successful first year. That difference may reflect the fact beginning teachers in induction programs have had formal teacher preparation, while those in alternate route programs have not.

In some programs, the expressed goal is helping beginning teachers adapt to the local situation. In others, the expressed goal is helping them maintain a delicate balance between the aims of the program and the norms of the school. One teacher educator in an induction program put it this way:

> We try to help [beginning] teachers realize that although they have to work within the society of the school that they be able to do so without being socialized into the system in a way that prevents them implementing those ideas they have been trained to understand.

Some researchers have argued that the effects of teacher education are "washed out" by school experience; others assert that teacher education promotes idealistic practices that do not fit the real world of teaching. The tension between adaptation and inquiry is especially salient in programs for beginning teachers, but it is also an important issue for preservice and inservice programs.

## Inservice

Turning to the stated purposes of the inservice programs, we can ask: What do these purposes imply about the preparedness of experienced teachers and their readiness for new kinds of learning? Interestingly enough, some of the stated purposes of inservice programs echo the intent of preservice teacher educators. A math inservice program seeks "to develop teachers' ability to teach math in a way that involves students in a problem-solving, active learning approach to the learning of math concepts," while a writing program tries "to get teachers to challenge the givens of classroom instruction, to change the culture of the school and the climate of the classroom by changing relationships in the building."

While the rhetoric of teacher development permeates the talk of teacher educators, the current structures of teacher education do not support a developmental view of teacher learning. One teacher educator expressed frustration with the unrealistic expectations placed on preservice preparation: "I think we ask too much of an initial program." Data about what is taught and learned in diverse preservice, induction, and alternate route programs can inform our thinking about the central tasks of teacher education at different points in teachers' careers.

## Is Integration an Individual or a Program Responsibility?

While teaching is an integrated activity, teacher education programs are constructed out of separate components. How do teachers learn to bring together different kinds of knowledge in teaching? How do they learn to apply theory in practice? How do they transfer knowledge and skills to the classroom?

In thinking about teacher education and learning to teach, one can ask where the responsibility for integration and application lies. Do programs take on the responsibility for helping teachers integrate different kinds of knowledge in teaching or do programs assume that individual teachers must "put it together" for themselves? There is much talk among teacher educators about the importance of integrating theory and practice, knowing and doing, subject matter and pedagogy. What, if anything, do teacher education programs do to facilitate this integration? And how do teacher educators think about this aspect of learning to teach?

The interview data reflect three different responses. Some programs seem to leave the matter up to the individual teacher. Some programs have an overall structure that reflects a commitment to fostering integration. Some programs have specific components where integration or application is the overarching concern.

Leaving the integration task to the individual teacher fits with the belief that teaching is something you have to do yourself. As one teacher educator put it: "I'm beginning to think that you have to go through it, that you have to start teaching writing and you learn as you go." A methods instructor and supervisor in another program said: "Students learn to teach by being in classrooms and coming up against problems they have to solve." And another supervisor echoed a similar sentiment: "I often feel especially during student teaching that my students are teaching themselves to teach and that what I'm doing and everybody else is doing is supporting that process."

At the other end of the continuum are programs whose overall structure suggests a deliberate effort to promote integration and application. One fifth-year preservice programs consists of two core seminars--one focusing on developmental principles, the second on curricular applications. Accompanying these seminars are field experiences where students are supposed to construct practical applications of developmental principles. Programmatic responsibility for integration also seems to be built into inservice programs that provide systematic classroom follow-up. Rather than relying on individual teachers to transfer new knowledge and new practices (e.g., from summer workshops) to the classroom on their own, the program tries to facilitate this process through regular on-site demonstrations, support, and assistance over a period of time.

Defining a middle position is more difficult, at least from the exploratory data. Some programs have integrative components. For example, one program offers a semester-long practicum prior to student teaching where students act as peer coaches, planning units together and videotaping each others teaching. But individual instructors also describe assignments and activities, teaching and supervisory styles designed to help teachers and prospective teachers make connections and put ideas into practice. One common strategy is to have students engage in learning activities that are similar to those they would carry out with children. This is often the approach to writing in both preservice and inservice programs. As one language arts instructor put it: "I like to have them write--we write together in class. They go through the stages of the writing process. . . . Over and above talking about the stages, we write."

## Conceptions of Learning to Teach

In the exploratory interviews, we asked teacher educators to describe the kind of teaching their program was trying to promote and to talk about what teachers needed to know in order to teach in that way. We also asked people how teachers learn to teach like that and how their program tried to foster such learning. By relating these responses to descriptions of programs, we have been able to discern different conceptions of learning to teach.

Some preservice and inservice programs construe learning to teach as a process of transformation. Sometimes the emphasis is on helping teachers develop a professional identity; other times the focus is on radically changing teachers' ideas and practices. An instructor in a preservice program observed: "They have to have processed their own schooling in order to make the transition to the other side of the desk." He said his goal was to "change their [students'] consciousness about what it means to be a teacher." He assumed they would pick up methods and strategies after they left the program. And an inservice trainer talked about getting teachers to "unlearn" attitudes and old ways of teaching in order to become a learner--"someone who's willing to take some risks, make some mistakes, read some new articles, listen to somebody else's point of view, and go back and try some things."

A quite different conception emerges from programs may emphasize the acquisition of new skills and strategies. Here learning to teach is construed more as a _training process_. One inservice program is organized around a two-step model: first theoretical or procedural knowledge is presented, then teachers engage in guided practice with feedback. According to this model, teachers learn when they have the opportunity to practice or demonstrate the skill or knowledge being taught and when this practice is monitored and they receive corrective feedback on their performance.

In other programs learning to teach takes the form of _practical problem solving_. In one alternate route program, teaching is viewed not as a technical activity with procedures that can be repeated with some expectation of success but as a practical activity where individual teachers have to use what works for them in their own setting. In a preservice program, the emphasis is on helping student teachers think through problems as they arise. "You have to get in and be teaching and have a resource while you're doing it. And that resource has got to be right at your elbow and there has to be shared time to talk through what it going on." One instructor described how he would talk through a problem with a student teacher rather than give advice about what to do: "Most people would say, 'Why don't you try this? Did you tell him that if he didn't, he couldn't go out to recess?' . . . I would deal with the problem by asking questions like, 'What needs do you think the kid will meet by doing his math?'"

These three models reflect some of the conceptual variation in our sample. They do not cover all the different ideas about learning to teach that we encountered in our exploratory interviews, but they illustrate some of the dominant orientations. As we learn more about programs-in-action, we will refine this conceptual map and continue to clarify the ideas about learning to teach that animate different teacher education programs.

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## SESSION D

## UNDERSTANDING HOW TEACHERS' KNOWLEDGE CHANGES

## UNDERSTANDING HOW TEACHERS' KNOWLEDGE CHANGES

Deborah Ball, NCRTE Researcher
G. Williamson McDiarmid, Associate Director

Much of the current debate about teacher education centers on what teachers need to know to teach academic subjects, where and how teachers can best acquire and develop that knowledge, and how teachers' knowledge can be assessed. The debate ranges over a variety of assumptions and perspectives. For instance, some educators and policymakers emphasize the importance of skills applicable to teaching all subjects and argue that these skills are best acquired through careful coaching by experienced teachers. Others claim that the best preparation for teaching is to study an academic discipline in depth and that any well educated person can teach. Proposed approaches to assess teacher competence range from checklists of skills to tests of subject matter knowledge.

The existing literature on the requirements of teaching and on how teachers learn what they need is of little use in these debates about teacher knowledge and teacher learning. We do not know much about what is taught and learned in teacher education programs nor how formal influences on teacher knowledge (e.g., university courses) compare to nonformal influences (e.g., on-the-job experience). We lack information about how teachers who have undertaken professional preparation differ from those who have not. We also lack an understanding about the dimensions of teacher knowledge on which teachers must draw and the relationships among different kinds of knowledge for teaching. As a result, arguments for particular approaches to teacher education and attempts to measure teachers' knowledge are often unconvincing.

To inform current debates and curriculum reform in teacher education, the National Center for Research on Teacher Education is examining what teachers are taught and what they learn in 11 diverse preservice, induction, inservice, and alternative route teacher education programs. Our work combines case studies of programs with longitudinal studies of participants' learning. Before, during, and after the program, we will survey participants' beliefs, attitudes, and knowledge concerning the teaching of academic subjects to diverse students. A smaller sample of participants in each program will be periodically interviewed and observed as they teach.

A critical feature of our research design is the fact that we collect information on participants over time so that we can see whether and how their ideas or practices change and what factors seem to play a role in any such changes. Tracking these changes requires us to define as clearly and precisely as possible the types of knowledge and behavior that are likely to change during teacher education.

## What Should We "Follow"?

The lack of consensus among our 11 programs on what teachers need to know and be able to do complicates our task. For instance, some programs emphasize subject matter knowledge while others emphasize general skills of teaching. Some programs urge teachers to let their pupils take an active role while others encourage teachers to structure time, space, and content.

Given such diversity, how could we develop strategies for tracking change that would be broad enough to encompass diverse points of view and still be sufficiently focused to detect subtle changes over time? Below we describe how we have resolved this dilemma.

## Bounding Our Inquiry

### Focusing on Mathematics and Writing

Initially, we made two decisions that helped to set some boundaries for our work. To learn more about the relationship between subject matter and pedagogy in teaching and learning to teach, we chose to study teacher learning in two specific subject areas: mathematics and writing. Not only do these subjects offer a contrast, they are also taught from kindergarten through high school and are subjects that pupils often have trouble learning. Since current school practices in math and writing classes frequently differ from those recommended by subject matter experts, these may also be areas on which some teacher educators concentrate.

### Identifying Competing Conceptions of Good Teaching

Our second decision addressed the fact that different, even competing, visions of good mathematics teaching and writing instruction exist. To ensure that our instruments did not favor a particular conception, we needed to articulate the dominant conceptions of good math teaching and good writing instruction. If, for instance, we were to assume that teaching writing well meant focusing on mechanics and spelling, our instruments would contain primarily questions about teaching those conventions. Our chances of detecting changes in teachers who focus principally on the processes of composition would be diminished. Similarly, if we focused our instruments on a diagnostic-prescriptive approach to teaching mathematics, we would likely miss changes in teachers who were thinking about ways to involve students in small-group problem solving.

For both math and writing, we identified several distinct approaches to teaching and identified the knowledge and skills each approach required. We also identified the views of teaching, learning, and subject matter inherent in each approach.

## What Goes Into Teaching?

To understand how teachers learn and change, we had to clarify what goes into teaching. When teacher educators or policymakers talk about teaching, they generally focus on knowledge and skills, often treating them as distinct categories. While useful for analytical purposes, this distinction conveys a misleading impression that skills can exist independently of knowledge. Asking good questions and giving clear explanations, for instance, are often defined as skills yet they draw on teachers' knowledge. Besides acknowledging the interdependence of knowledge and skills in teaching, we recognize that teaching involves other things as well. For example, decisions about when to ask particular types of questions depend on teachers' commitments and orientations. All these ingredients are reflected in teachers' dispositions--their tendencies to respond in certain ways under particular conditions.

While teaching is of a piece, learning to teach occurs unevenly over time. Prospective teachers, for instance, come to the university with ideas about what teachers do. While at the university, they acquire knowledge and skills in their subject matter areas. Formal study also shapes their ideas about teaching as well as their commitments and orientations. When they begin to teach, they continue to learn--about teaching, pupils, and subject matter. Our interest in teacher learning requires that we pay attention to changes that occur separately in teachers' knowledge, skills, and dispositions as well as changes in how they bring these ingredients together in their teaching.

## Knowledge of What?

How could we sample relevant knowledge in each of these areas? Using our focus on learning to teach mathematics and writing, we worked through the following domains of teaching: subject matter and curriculum, context, learning and learners, teaching and the teacher's role--seeking to specify essential teacher knowledge, skills, and dispositions. In each of these domains, we have identified the specific questions most germane to our focus on the teaching of academic subject matter to diverse learners.

In thinking about subject matter, for example, we recognize that we need to know what teachers and prospective teachers understand about mathematics and writing and how they represent their understandings to themselves and to others. From any perspective on what constitutes good teaching, teachers draw on their personal knowledge of these subjects. We also recognize that we should pay attention to how teachers take contextual factors into account, including the community, the policies of the school district, the classroom setting, the cultural backgrounds of the students, and the time of day or year.

In thinking about what teachers need to know about learning and learners, we focus on teachers' knowledge of pupils of different ages, developmental levels, and backgrounds, as well as their knowledge of their own pupils. We have also identified critical questions about teachers' ideas of what it means to "learn" something, of how learning occurs, as well as of what their responsibilities as teachers are.

In the area of teaching, we are interested in teachers' ways of working with pupils: their repertoire of strategies for helping students learn mathematics and writing that include attending to the diversity of learners in the classroom, figuring out what pupils know, and deciding what to do in the classroom and doing it. In addition, we recognize that we should tap teachers' ideas about what they need to learn and how they believe they can learn that.

We have kept in mind that ideas about what teachers need to know in any of these areas vary from one perspective on good teaching to another. For instance, according to one view, the teacher's role is to present clear explanations of mathematical concepts and procedures; according to another view, students must actively construct these understandings for themselves. While these clearly differ, both reflect points of view about what teachers need to know about learning and about their role as teachers.

## Strategies for Tracking Teacher Learning

To track teacher learning, we developed three instruments: a questionnaire, an interview, and a guide for observing in classrooms. The questionnaire taps teachers' beliefs and knowledge about the dimensions outlined above. For instance, to get at respondents' ideas about learners, we ask them to evaluate a number of mathematics and writing tasks and to indicate which tasks are beyond the grasp of most six- to eight- year-olds. To elicit the knowledge of mathematics and writing on which they might draw in teaching, we ask subject matter questions embedded in teaching scenarios. One such scenario, for instance, asks respondents to evaluate the reasonableness of an unusual student response in mathematics.

The interview is designed to explore our participants' views about teaching, to learn what factors they consider when performing teaching tasks and their views about helping pupils learn mathematics and writing. We have developed the interview questions around tasks of teaching, such as appraising students' written work, planning an activity or lesson, and responding to a pupil's question.

Our observation instruments include an observation guide as well as pre- and post observation interview schedules that enable us to set what we observe in the context of the teachers' overall goals and practices.

## Conclusion

In developing measures of teachers' knowledge and skills, the Center has faced the same issues as others attempting to develop instruments to assess teacher knowledge and skill: what knowledge is relevant, what constitutes good teaching, and what strategies will tap what teachers know and can do. The way we have addressed these issues reflects our dominant purpose as researchers investigating how teachers learn, rather than as policymakers developing strategies for measuring teacher competence or granting teacher licenses. Unlike other assessment efforts, we do not need to define standards for teaching performance. Instead, our instruments must be sensitive to different conceptions of good teaching. Moreover, since we are tracking changes in teachers over time, we are interested in the shifts that occur within particular dimensions--such as a teacher's beliefs about students, for instance--as well as in how teachers integrate different kinds of knowledge in teaching.

The data collection strategies we have developed combined with our longitudinal research design will help us understand what people learn from a variety of experiences--prior schooling and on-the-job experience as well as formal teacher education. Through questionnaires, interviews, and observations, we will be able to record changes over time in teachers' and prospective teachers' thinking and teaching. At the same time, we will be learning what programs are doing through interviews with program personnel, analyses of course and program documents, and observations of classes and workshops. Putting together data about the programs with information about teachers and prospective teachers will enable us to address our central research question: What is the relative impact of different kinds of teacher education programs on what teachers learn?

# SESSION E

# THE ROLE OF EXPERIENCE IN LEARNING TO TEACH

# CLARIFYING THE ROLE OF EXPERIENCE IN LEARNING TO TEACH:
# TASK AND GROUP REPORTS

## The Task

This morning we would like to bring together two ideas: the role of experience in learning to teach and the notion of a continuum in teachers' learning. Teacher educators and teachers agree that experience plays an important role in learning to teach. In all 20 teacher education programs where we conducted exploratory visits last fall, teacher educators talked about the importance of experience in helping teachers learn what they need to know. The question that we want to focus on today is, In learning to teach, what lessons are best taught or learned through experience and what conditions support that learning? We also want to look at the role of experience over time.

Teachers start learning to teach long before they take their first education course and they continue to learn as they engage in the work of teaching. One unique feature of the Center's work and of this gathering is that we have included programs at different points in teachers' careers--preservice, induction, inservice. That allows us to raise questions about the special role of teacher education over time. Are there some things, for example, that prospective teachers need to learn before they begin to teach? Are there certain things that can best, perhaps only, be learned on the job? Are there some things that are particularly appropriate for induction programs as compared with inservice programs for more experienced teachers? These questions about the role of teacher education over time have not been asked in a systematic way.

This morning, we want to put these two ideas together by talking about the role of experience across the learning to teach continuum. All of you have been assigned to two different groups. The first group consists of teacher educators working at the same level--preservice, induction, or inservice. The focus in these groups is on the lessons of experience that can best be learned at a particular stage in teachers' learning and the conditions that are most likely to support this learning.

In the second round you will meet in mixed groups to compare the lessons of experience across the different stages of learning to teach. Then, after brief reports from the discussion leaders, Gary Griffin will talk about how teacher educators, interviewed during our exploratory visits, discussed the role of experience in their programs.

## Group Reports

### Ken Zeichner

Several issues came out of our group discussion. First of all, people had trouble separating experience from other elements in a teacher education program. In fact, one preservice group changed the question to, "How does experience best fit into a preservice program along with other things?" As we looked across the preservice, induction, and inservice levels, a number of things struck us. For example, at the preservice level, we had a long list of lessons to be learned from experience and we wondered whether too much was expected at this stage. When we looked at the induction list, there seemed to be a great deal of similarity; however, as we began to talk about it, we realized that the same words took on different meanings at the different levels. "Collegiality" is one example. At the preservice level collegiality referred to relationships among students in the program; at the induction and inservice levels collegiality referred to relationships among fellow teachers. As we began to play around with lessons to be learned about classroom management at the preservice, induction, and inservice levels, we realized that we really have not thought through very carefully what we want teachers to learn and how it would change over time with one stage building upon the other. We really have not done a great deal of thinking about that kind of curricular coordination.

The induction and inservice lists included such things as defining one's self as a teacher, learning about learners and how they deal with subject matter, practicing skills of teaching, practicing skills of learning to teach such as analyzing one's teaching over time, developing a sense of competence as a teacher, learning about the school as an organization--finding a balance between fitting in and innovating--learning about the complexity and unpredictability of teaching. On the surface, the lists were very similar, but we really did not have time to explore the different meanings these lessons may take on at different levels. We really need to think about that and plan for better coordination. Finally the inservice and induction groups identified some lessons that people felt could only be learned by being part of a faculty group in a particular situation. Examples include learning more complex approaches to teaching and learning what to pay attention to. These lessons imply some sort of developmental progression.

### Marianne Amarel

First of all, let me make two quick introductory comments. People mentioned several different kinds of experience. The most common was the direct experience of being in school. People talked about setting up simulations of school experience where students could actually make decisions and have feedback about the consequences of their decisions, something that could not be done in the real setting. They also mentioned reflective experience, reconstructing one's personal experience on the basis of later experience. One person brought up vicarious experience (e.g., reading about another school) as an alternative to direct experience. We also talked about the dark underside of experience--giving more emphasis to a singular experience with a student than to generalized experiences that one might read about or seeing role models that should not be imitated.

Beyond those introductory remarks, I think what Ken reported was true across the board. I found that, at both the preservice and induction levels, the whole bag and baggage of learning to teach was put on experience; while inservice emphasized more honing skills, learning to deal with new demands, a changing society and context, learning to deal with colleagues, learning to become a mentor and a support person. Those lessons were really not mentioned in either preservice or induction. At the preservice level almost everyone talked about learning to compare and contrast reality with something else--be that theories, prior beliefs, expectations, plans. Almost everyone talked about coming face to face with the complexity of the environment--something you could never learn except through experience. People talked about practicing skills, having the chance to actually act them out and learning to assume the full role of teacher.

There was general agreement that experience is not good for everything and that it may even be harmful. The critical factor is guidance, although describing the nature of guidance is complicated. It depends on context, the timing of the experience and the nature of the desired learning.

All of the things that could be said about teaching a pupil in a classroom were said about learning to teach. At all three levels, there was a sense that teachers need time to learn, time to ease into something, time to have an experience, see the consequences, and reinterpret it. At the inservice level the key condition had more to do with taking the particular experience of teachers seriously, giving it more respect and more material and administrative support. The major condition mentioned at the induction level was that guidance be supportive and nonpunitive so teachers can experiment and fail. Teachers need environments where they can test themselves and not have to worry about negative consequences when things do not always work.

Barbara Neufeld

This group, like the others, had some concerns about dealing with "raw" experience separate from other aspects of programs. Having said that, we had some interesting contrasts compared to the other groups. At the preservice level we had a very short list and a longer one at the induction level. But the inservice people offered a way of thinking about what people could learn at different levels that provided a useful starting point. They suggested that teacher educators can shake up or restructure teachers' ideas and they can build on what people know. That is true across all levels. What came out in our discussion, however, was that, at the preservice and inservice levels, we are probably emphasizing the shaking up and restructuring part and at the induction level, more the building on what people already know. That is a nice framework for thinking about the examples of what teachers can learn from experience at different stages.

At the preservice level, some people talked about experience being important for developing some self-confidence and for providing the opportunity to contrast many things (e.g., theory and practice). Experience is also a way to learn about managing the unpredictability of classroom life and becoming more flexible about a whole range of issues. It is also the way to learn to deal with kids, other teachers, and other people in the school building. Because the conditions for all of that are quite critical, people did not want to separate out experience from other aspects of programs.

One key condition is that all parties involved in the experience have to have a "meeting of the minds" about what they want to accomplish. Secondly, the experience is only useful when the student has made sense out of it. Sequencing is also important; a well structured experience can occur at the wrong time. And there should also be time in preservice programs for students to reflect on their experiences with support. This makes the experience more generally worthwhile and also increases the effect of the program once the student goes out to the field and encounters a lot of other pressures.

At the induction level we have ar interesting contrast. The preservice people said that prospective teachers could learn self-confidence through experience. At the induction level one of the things that is learned through experience is how to deal with feeling incompetent. Teachers need to learn how to get help, end their isolation and deal with the fact that, having developed a lot of confidence, they no longer feel it. At the induction level there was a strong sense that beginning teachers can get help from other teachers, that it pays to ask for help, that there are a range of resources to draw on--in schools, districts, the wider world. All of the things that one could learn or be exposed to at the preservice level were mentioned as things that could be built on at the induction level: management issues, questioning skills, time organization, and so on. In order to do this, there would have to be formal support. Should support and evaluation be separate or together? We heard about programs where these functions were separate and about programs where they were performed by the same person. In addition, beginning teachers ought to have books, materials, and curriculum guides and their classes should not be the most difficult.

Finally, the inservice level is a time to challenge and question long-held assumptions, to learn alternate frameworks, to broaden the perspectives and complexity with which one thinks about teaching, to develop alternate courses of actions. In terms of building on what teachers know, this is a time for them to integrate a whole range of knowledge that they might have developed but not had a chance to pull together. It is also an opportunity to learn more about subject matter and other dimensions of teaching. Across all of these levels, there should be an emphasis on learning how to learn about your own teaching. The conditions for inservice include time and timing. People need time to think about what they're doing. There's also a tension between building on what teachers' know and restructuring their ways of thinking and working, between encouraging teachers to attend inservice programs that respond to what they want to know and trying to provide teachers with new ideas they might not think of on their own. Modeling with feedback is important, as is having the experience of being a learner again.

Trish Stoddart

I want to start with some common ideas that apply across all three levels of teaching and learning to teach. First, learning by experience is a double-edged sword. What you might learn from experience may be positive or negative depending on the conditions of the experience. Since people come with prior knowledge and beliefs, experience may help them see some new aspects of a situation or it may reinforce biases they currently hold. Second, there is something of a developmental progression from preservice through induction to inservice as teachers construct and reconstruct more sophisticated views of the teaching/learning situation in schools and hone their skills in the tasks of teaching. Third, at each level, there will be individual differences. Not everybody is going to be at the same level. We have to pay attention to teachers as developing individuals and, at all the levels, help them view themselves as learners. Learning is not an instantaneous process. It takes time, feedback, reflection. Growth requires evaluation and support. Finally, as others have mentioned, a major component of learning from experience involves comparing and contrasting the hypothetical with the real. Preservice students compare and contrast research and theories that are presented in classes with the reality of the classroom situations they observe and experience. They compare and contrast plans developed with the reality of how those p'ans are carried out in practice. At the preservice level, this process is actually contained in the structure of the program, whereas at the induction level it often goes on inside the teacher's head. If teachers do that alone, they may abandon innovative ideas and practices. At the induction level, the issues of fitting into the school and learning how to work the system could impede learning how to identify resources and gain help from colleagues. We also talked about developing a professional identity and a sense of empowerment, issues which become important at the inservice level.

Karen Zumwalt

Our group had three points to make. The first concerns the difficulty of separating experience as a source of learning from other sources of learning to teach. We felt that this was not only difficult but undesirable. The second point is that lessons learned from experience form a continuum. Most of the lessons start at the preservice level and increase in both complexity and internalization as teachers move from preservice to induction. For example, many preservice students start out thinking that their job is to work with children. In student teaching, they find out that they also have to work with adults (e.g., administrators, peers, parents) even though the one adult they really have to cope with is with a cooperating teacher. They are merely aware that others are there. When prospective teachers reach the induction years where they have full-time teaching responsibility in a particular school over a year's time, they must learn to cope with all kinds of adult relationships, not just be aware that these other adults are there. For example, they have to learn to deal with their peers as individuals and as a group. At the inservice years, the issue is not just coping with adult relationships but valuing relationships with colleagues.

While the continuum idea is useful, we cannot assume that teachers who have gone through a preservice program will have learned all the lessons on our list. In some preservice programs, students do learn to interact with parents; in others, they do not. In some, they have full-time teaching responsibility; in others, they do not. Moreover, individual teachers may learn lessons at very different rates. Finally, we emphasized the need for structure and support in order to learn from experience. We felt that the need was probably strongest at the preservice level, absolutely essential at the beginning teacher level, and probably nonexistent but necessary at the inservice level, in different ways for different kinds of teachers.

# THE ROLE OF EXPERIENCE IN TEACHER EDUCATION: ISSUES RAISED BY EXPLORATORY VISITS TO 20 TEACHER EDUCATION PROGRAMS

Gary A. Griffin, NCRTE Consultant

## Introduction

This research paper is based upon a preliminary examination of the data collected during initial site visits to institutions participating in the research of the National Center for Research on Teacher Education. The data used for the paper took the form of responses to interview questions with some interpretation of those responses by NCRTE staff and consultants. Because the sample of respondents was not large in any situation, it is not possible to make claims for the validity or generalizability of what is presented here.

The interview data consistently attend to the importance of experience in learning to teach. The importance, however, is seen in different ways and is conceptualized in a wide range of forms. There appears to be little agreement across sites about how experience enriches or informs teacher education with the exception of the general belief that "experience is important." (This is not to conclude that there may not be some conceptual or practical agreement; it is only to suggest that the initial exploratory case studies did not reveal it.)

The content of this paper, then, is organized around a set of questions that appeared to be addressed in the interview data, questions that are of some significance as we think of the ways that teachers learn to teach and continue that learning over their professional careers. I chose to use questions as organizers (even though they had not been asked in the interviews) because it appeared to me that respondents were giving us clues about what they believed to be important in regard to experience in teacher education. In short, the data called for some form of organization and, in the same way that the cart sometimes is put before the horse, the answers preceded the formulation of questions.

## How is Experience Defined and What Value is Placed Upon Its Form?

Experience is clearly a valued component of teacher education programs. What is not clear is how various participants define experience. For some, it is defined largely as "recalled experience," as in the forms of recollections of experience as a student, as a learner in the disciplines, as being in teacher-like situations, as working with children and youth. This way of looking at experience suggests that what experiences a prospective teacher brings to teacher education may be highly valued and important.

For others, experience is defined and valued as it is used in some intentional way in teacher education programs. Interestingly, although experience in teacher education is typically thought of primarily in relation to student teaching situations, respondents in the NCRTE sample mentioned a number of other opportunities where students could have guided experience--in practice associated with methods courses, in simulated situations, in the disciplines themselves (especially in relation to the act of writing and learning from one's own writing how to approach the teaching of writing), and even in foundations courses where the experience associated with what might be called "the life of the mind" is considered of value.

Clearly, though, experience in teacher education is most often defined in relation to ongoing classroom life with the typical patterns of activity centered on the ways that children interact with teachers (or prospective teachers). The version of experience in preservice programs is found most often in student teaching, in internship programs as beginning teachers work in their own classrooms, and in inservice programs in the reflections of experienced teachers upon their own practices.

Although there is no evidence to suggest that experience is not a good teacher of teachers, the interviews did not suggest ways that experience could be the best teacher of teachers. What are the lessons that can best be taught by experience (as opposed to some other mode of instruction)? What are the defining properties of "good" experience? How does one think of experience in terms of other program components? What are the qualitative differences between the experience dimensions of preservice, induction, and inservice teacher education programs? The general value of experience is considered to be high. The specific values of different experiences are yet to be understood.

### What Are the Content Dimensions of Experience?

Obviously, all experience is focused on something and is related to something in the world of the experiencer. Experience, in other words, is the interaction of someone with something, the something here is considered the content of experience.

The NCRTE interview data suggest a broad range of candidates for the content of experience in teacher education. For some, the content is made up of the characteristics, attributes, and behavior of a role model: One experiences the ways that one can come to be like that person. For others the content of experience is what is present in the context of teaching: the particulars of a classroom environment, for example. For others, experience is related to a focus on the nature of children and youth, as in leading a play group of young children partly to guide the play but largely to estimate the developmental levels of the children participating.

In addition to what has already been mentioned, the content of experience as revealed by the data includes the following:

- That which is presumed to have been learned in other program components (e.g., using experience in classrooms to test theories of classroom social systems)
- Research findings (e.g., verifying through experience the effects of a direct instruction model of teaching)
- Propositions about practice (e.g., implementing one or more of the "models of teaching")
- Values (e.g., using experience to develop understandings related to what constitutes a humane learning environment)
- Personal development (e.g., engaging with children toward the end of creating a sense of commitment or mission)
- Simply "doing" teaching (e.g., how to cope with classroom distractions)
- The requirements of professionalism (e.g., attending and participating in teacher union meetings)

An issue that arises from this list is whether or not there is any widespread understanding or belief about what experience should focus upon in learning to teach. Is it satisfactory that experience should serve so many ends? Are some of the lessons of experience, as noted here, better learned, at least initially, in settings other than elementary and/or secondary school classrooms? Is there any clear distinction between the content of experience for prospective teachers, new teachers, experienced teachers? Is "experienced as a teacher" thought of in coherent and sequentially cumulative ways, or relatively haphazardly? Is there a widely understood or shared lexicon to help think through the content of experience?

## What Are the Process Dimensions of Experience?

When one considers that experience is focused on something with the intention to learn about or how to do that something, one also realizes that the nature of the interaction, or the experience, can also be thought of as process. (This, probably, is the most common and primary idea about experience--that something happens.) In the NCRTE preliminary interviews, respondents noted a number of processes for experience, ways that prospective and practicing teachers might engage with the content of teaching and being a teacher.

The processes of experience included in the interview data were modeling, performance, practice, analysis of one's ongoing practice, analysis of the context surrounding one's ongoing practice, integrating a number of teaching behaviors (versus "experiencing" each of the behaviors in isolation), and the very general and ubiquitous "teaching is the process of learning to teach." Also raised was the issue of experiencing as a form of constructing knowledge for one's own developing conception of what it means to teach.

The interviews revealed few hints as to how these process dimensions are valued in relation to one another or in terms of which processes are believed to be most positively associated with which content. Likewise, the issues of whether the process was to be solitary, guided, or collegial and whether there is some duration or time dimension associated with the processes were largely ignored. In short, it seems important for NCRTE researchers and teacher educators to consider more thoroughly how experience is conceptualized as some sort of personal action, when and where and for how long that action is believed to be influential upon learning to teach, and what content and processes are or are not believed to be most effective in combination.

## What Are the Expectations for Experience in Terms of Outcomes?

This question is an attempt to find out why experience is valued in teacher education. If one assumes that any educational program is intentional, what are the intentions for opportunities for experience as people learn to teach? Several outcomes of experience were noted in the interview data.

Experience is thought of by some as a way for prospective teachers (more so than for experienced teachers) to learn the rules of the game, to become technically adept, and to function at some reasonable level of competence in typical teaching and schooling settings. This view promotes the role of experience as a vehicle for "fitting" into conventional teaching situations so that the novice teacher does not fall below the typical expectations for acceptable practice.

Another view of intentionality of experience is tied to a less technical and more intellectual perspective of what good teaching is. Some believe that experience can be used toward the end of mastery of content, of becoming seriously adept at dealing with subject matter as personal knowledge as well as using that knowledge effectively in student-teacher interactions. This blend of subject matter with technique appears most often in discussions of continuing to learn to teach (i.e., during the early years of one's teaching activity) and, in subject area terms, in relation to learning to teach writing effectively.

A third perspective on the desired outcomes of experience might be called experience as empowerment to make changes. In this view, it is not enough for experience to help someone fit a typical school or classroom setting; experience should provide the knowledge, vision, and skill to change the setting, to make it better somehow. This orientation combines the expectation that experience will help the teacher know how to both "read" the setting and use that understanding to alter teaching-learning conditions.

Finally, some think or experience less in terms of purposes for the teacher candidate or teacher and more in terms of how it serves the needs of the teacher educator. The experience of the prospective teacher, it is claimed by some, will give an observer the necessary knowledge to make decisions about whether or not the person should remain in a program or in the teaching cadre. This "gatekeeper" function of experience, of course, is more closely aligned with program-level decisions than individual or group learning decisions.

## How is Experience Guided?

The interviews revealed a set of issues about how experience is guided or supported by teacher educators, practicing teachers, or teachers themselves. Of particular interest to some was the "who should guide?" question. Put another way, respondents wondered what should be the personal and intellectual qualities of teacher educators? What professional background will be most helpful as someone works with another on learning to teach? What professional, ethical, and intellectual perspectives are most valued and most powerful to achieve the goals of teacher education programs?

Related to the issue of "who guides" is how one learns to be an effective guide of experience. In preservice programs, it is of some concern to teacher educators that cooperating teachers do not have specific programs designed to help them work with student teachers. In induction and inservice programs, questions are asked about how best to prepare a cadre of experienced teachers to work with novices and peers.

Guidance, of course, is a form of experience itself and has a process dimension built into it. Process here, though, is thought of in terms of the person who guides rather than the person who is guided (as above). The NCRTE data demonstrate that some respondents believe that guidance should be prescriptive in nature, providing lessons for practice that, if learned, will contribute to teaching effectiveness. Others focus on the analytic, working with teachers and intending teachers in ways that help them to understand their own behavior and dispositions in relation to expectations for children and youth. Others focus on the experimental, setting up situations that cause the teacher candidate, for instance, to try out a series of possible actions and then reflect upon the relative advantages of each. Still others believe that guidance is most effective when it is largely responsive in nature, offered as a consequence of being asked for. Few respondents seem to view the guidance of prospective teachers or practicing teachers as developmental, calling for different forms that are particularly related to the stage of a teacher's career or to the relation of the teacher's progress toward some articulated goal.

Also related to guidance in learning to teach is the issue of the context in which the guidance takes place. Contexts were variously thought about in terms of whether they supported the intentions of a teacher education program; whether they were rich or impoverished in human, technical, intellectual, and material ways; and whether they were aligned in some fashion with larger program goals. This last point is particularly important to preservice teacher educators who are concerned with the degree of compatibility among the multiple contexts in which prospective teachers learn to teach (e.g., liberal arts courses/classrooms, educational methods courses/classrooms, practicum sites, student teaching classrooms, etc.).

## Conclusion

Clearly, this paper is not meant to present a set of findings about teacher education programs in general or the NCRTE participating institutions specifically. What it does is raise a set of questions about the nature and role of experience in teacher education programs that emerged as a consequence of the ways that teacher educators talked about their own programs.

This paper may be helpful in terms of thinking about what Eisner (1985) calls "the plurality of meaning" and how the differences in perspectives are rooted in personal meaning that may be (probably are) particular to programs of teacher education and, perhaps, to individual teacher educators. We have learned that experience is not conceptualized in the same ways across or within programs; that the assertion that experience is of great value does not have the same currency among even small numbers of teacher educators; that the content, process, and guidance of experience come together in different ways for different participants in teacher education; and that the role of experience in teacher education programs at even the most general level of conceptual and practical meaning appears to need considerable study.

Futhermore, as we continue to unravel the highly complex and massive enterprise called teacher education, we should give more specific attention to the function of experience. These first lessons about how participants in the NCRTE programs think about that function should be helpful as we continue with the research agenda. What might we find, for example, if we looked at each "learning to teach" experience through the multiple lenses of content, process, intention, and guidance structure? These views of the nature of experience might be helpful to construct a tentative taxonomy of experience that, tied to outcomes, would yield clues about when and where experience most powerfully affects those who are learning to teach.

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## SESSION F

# THE REFORM MOVEMENT IN TEACHER EDUCATION: PERSPECTIVES FROM "HOLMES" AND ABROAD

## SESSION F

# THE REFORM MOVEMENT IN TEACHER EDUCATION: PERSPECTIVES FROM "HOLMES" AND ABROAD

### Introduction

Lynn Paine

We're happy to have Judy Lanier, president of the Holmes Group and Harry Judge, head of the Faculty of Educational Studies, Oxford University, with us today. We promised them a chance for a real conversation and I'm glad we have this opportunity to listen in.

Harry

I am feeling rather modest in kicking the discussion off because I see myself much more as a privileged observer and commentator than as an initiator of ideas. I will be looking at the reform of teacher education from a European perspective, trying to frame some questions to which I hope Judy will feel free to respond. Part of the argument that I would deploy in talking about Europe is that Britain is now very much a European country with a highly centralized system of education and, therefore, of teacher education. Things happen in Britain because the 1944 Act said that the British educational system shall be under the direction and control of the Minister of Education which is hardly the relationship between Washington and public education in this country. So it is easy to understand in European countries what the springs and motives of reform are and who is actually responsible. Those things are not clear in this country.

The first question that I want to share with Judy and with you is, Where did teacher education reform here and in Europe come from? What are the roots of reform? Now in Britain, as part of Europe, we have no doubt about the roots of the present teacher education reform movement. They lie in the

1970s in a profound, public discontent with what teachers were doing or were held to be doing and with the blaming of colleges and university departments of education for producing bad teachers. You can find that in the Black Papers of the 1970s. So, in Britain, we know what the impetus for reform is--public discontent expressing itself in governmental action.

Why is the teacher education reform business in the States now at the top of the agenda? To observers like myself it was relatively unexpected. On the whole, if you look at arguments about the reform of education in this country, teacher education has not been a central component in proposals for reform. Where did it come from? Did it come from the bubble of activity which led to A Nation at Risk (National Commission on Excellence in Education) in 1983? Did it come from outside teacher education establishment? If it came from outside, then why were books like The Miseducation of American Teachers (Koerner, 1963) so neglected by the teacher education establishment in this country? What happened in the 1980s that has made teacher education reform a central piece of the reform agenda? That is the first thing I wanted to have a conversation about with Dean Lanier.

Judy

I have a number of views on that. The discontent with teaching in the United States came from a number of different places. In my own view, among the most prominent has been the changes in the nature of the workforce in teaching and a growing dissatisfaction on the part of the public with that workforce. I also think it came out of a set of rising expectations about what schools need to do in the future.

In the 60s and 70s the teaching force ceased to be such a transient workforce. More people made teaching a career. That happened for a number of reasons. It became acceptable for women to continue working, combining family and work. The middle-class and lower-middle class, where most teachers come from, thought they needed two incomes. So both economic and social pressures kept people in teaching for longer periods of time. The shift in human rights issues that gave minorities and women opportunities outside of teaching also pressed teaching. Historical research suggests quite strongly that people who tried to make a career in teaching found that it had a deleterious effect on their minds and spirits. That occurred to individuals since the 1800s, but not in great numbers because, until the 60s and 70s, we had almost continuous turnover in teaching.

Over a prolonged period of time, more and more people developed a kind of malaise about teaching. At the same time, with rising expectations and other opportunities, those who remained in teaching were often those who did not have as much opportunity to go elsewhere. I think the North Carolina data from Schlechty and Vance (1981) suggests that the leavers tend to be from the upper ends of our graduating classes but most of the stayers were from the very lowest end of the distribution of talent in the college graduate population. The occupation of teaching in the United States is not set up for career people. Taking home essays to grade is alright for a couple of years, but when you do it for 20 years and it starts to interfere with family rearing and a whole lot of other demands, you burn out. When other opportunities presented themselves, a great deal of the talent went elsewhere. People became tired with teaching and did less. It is not surprising that multiple choice exams and testing and that kind of learning became more standard.

In addition, the failure of teachers on exams added to the dissatisfaction. In many instances these were minimum literacy exams and people were incensed because Americans believe that teachers in every community ought to be among the best and the brightest. As the requirements for teaching escalated from third grade to graduation from eighth to graduation from high school, to graduation from college, the public saw those as markers that teachers were among the best and the brightest. I think the American public was also angered because the profession itself did not take action.

During the 70s, when we could have been more selective, the number of institutions preparing teachers increased. There are many reasons for this. State policies gave colleges money based on the number of people they graduated. So institutional survival depended on keeping up production even during a perceived period of low demand. We also had a highly transient, youthful workforce that did not make much of an investment in their education, including thier professional preparation. Why study and prepare for eight years when you are only going to teach for two or three? Our institutions now are constructed to produce many teachers in a short period of time.

Harry

I read that, for the most part, the pressure for the reform of teacher education has been from outside the teaching and teacher education establishment rather than from inside it. Part of the problem has been--and here I would be at least as guilty as anybody in the room--that we enjoyed the relatively fat years and were relatively muted in our reactions. I made myself unpopular for implying that it was during those very years that the most distinguished research universities in this country chose in many cases to disconnect their enthusiasm for the business of teacher education because there is no money in it.

Now I want to ask you whether you share my view that, inside the teacher education reform movement and indeed inside the education reform movement in the United States, there are profound tensions. I will give you some examples. When Europeans have a problem, they describe it as a problem and assume that it is likely to be unsolvable. My two favorite examples of that are the "Irish problem" and the "South African problem." You cannot solve these problems because the problem is posed in such a way that no solution exists. You just have to live with them.

One of the most refreshing things about this country is that when Americans have a problem, they invent a movement with the same name as the problem! This creates a large umbrella under which all those who agree that there is a problem can gather and can persuade themselves that they are doing something about it. That is not meant to be a facetious comment; it's a serious remark about a particular approach to problem solving.

Let me just give you some examples of the tensions and what a skeptical but not cynical European would say about how these tensions are actually going to be played out over the next decade. You touched upon the most important one at the beginning--namely that there was and is in this country great public discontent. The governors, being wise politicians, exploit public discontent with the quality of teaching. And yet, a lot of the rhetoric suggests that more responsibility and more professional freedom should be given to those very teachers who have demonstrated that they are incapable of even performing relatively limited tasks.

So tensions arise. The first tension is between some teachers and all teachers. When you talk about a new style of teacher education or a new kind of professional autonomy, doesn't that begin to involve something deeply offensive to the American democratic spirit, namely an admission that a career professional teacher and a professional teacher and an instructor or a lead teacher and a teacher are not really the same? Somewhere along the line that tension might become destructive. Equally important is a deep conflict between the regulatory mode and the gubernatorial assumption that the way to get a system to behave better is to impose more control, more accountability, more testing. I would like to dignify and identify myself with the Holmes style which emphasizes autonomy and the enabling of people to perform as well as they can rather than the compelling of them to perform at their minimum levels.

Then there is a tension between what I would call the "piecemeal approach" and the "everywhere approach." The everywhere approach, which I would associate with the regulatory style of Carnegie to some extent, is to think of the teaching profession as a national resource with national standards. The piecemeal approach says things are never going to be the same in each of the 50 states but that does not matter because in an open and flexible system a wide variety of teaching performance ought to be acceptable. That would be another.

Also you've got a conflict between what I want to call "professionism" as distinct from "professionalism." On the one hand, you have professionism which says we will make damn sure that people can only practice as lawyers or dentists or doctors if they have been through sheep dips we control and the other, more the New Jersey style of things, that says in a free and open society anybody who can do this should be allowed to.

The last of my tensions, which is obviously a serious one for organizations such as the AACTE, is the conflict between the interests of the research university and those who march with them and the liberal arts colleges, places where it is possible to become a teacher because there happens to be a program run by a faculty of one. So those are the conflicts within the teacher education reform which I perceive: the conflicts between some teachers and all teachers; the conflict between regulation and autonomy; the conflict between piecemeal and national standards; the conflict between professionism and an open-access, deregulatory system; and the conflict between research universities and other places. If any of those tensions are real, what serious prospects are there for the success of the teacher education reform movement?

Judy

You know, Harry, the irony is that you've not only selected the key ones, you've also ordered them appropriately. If I had to pick the primary tension right now, I'd put the one regarding differentiated staffing high up on this list. My sense is that the only reason it is so controversial is because there is a noise in the system that has confused the idea. That noise is the discussion of career ladders which has planted in people's mind the view that any differentiation means hierarchy. What I call "legitimate differences" do not upset people ll that much. For example, if you ask in a public or professional educational forum, "Is it appropriate for a beginner with a baccalaureate degree to do the same work as the 20-year master teacher with advanced study and demonstrated expertise? Does it make sense that they are both given the same responsibilities in their work?" Everyone replies, "Well no, of course that would not be a wise thing to do." As soon as you would say, "Well then, let us take a portion of the work that an established teacher does and give that to a beginning teacher, whether we call them instructors or interns or residents. Let us identify them differently and be clear that they are prepared to handle with autonomy certain aspects of the work and not give it all to them." Most of the time people will agree with that. Now they'll say, "Well, how are you going to make that work in a school? And how much is it going to cost?" But the idea of differentiating between beginners and experienced teachers is not the problem. I think we can find a way to handle that.

The other side is that we lose a lot of people in teaching because they want some role beyond teaching youngsters, but they do not want to leave teaching kids. Right now, in most places, they do not have a choice. You either become an administrator and work in the school system or a supervisor in the state department. The opportunities for people to be like our IRT[1] teacher collaborators, doing research half time and teaching kids half time, has not been there. Now, if you say to people, "Would you object if we made teaching so that we wouldn't have to lose talented people totally, but only partially while they engaged in other educational work and we identified them as different and they had equal amounts of preparation for work with youngsters and additional training for that other role, would you mind having that kind of arrangement?" People will say, "No, that doesn't sound so bad at all. We shouldn't lose good people. We need all the best and the brightest we can find and get and keep. It might even improve policy and research to have such teachers involved." Then if you can get the public or the profession to discuss differentiation in those terms, the tension diminishes. It does not go away, but the tension diminishes. If it is cast as career ladders and we are differentiating so that those with high achievement motivation can be above somebody else and get paid more because they work harder or have more talent, if you cast it in those terms, the tension gets much greater and practicing teachers and organized teachers rebel.

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[1] Institute for Research on Teaching, funded by the National Institute of Education from 1976 to 1986 at Michigan State University.

The major worry, I think, is associated with our need to know more (and here is where our research comes in) about how collegial groups of people with different roles work together so that it is constructive and does not get so specialized that nobody could do anybody else's tasks. We need to keep the lines blurred so that we don't have a union here and a union there and nobody can cross the lines.

Harry

That is why I made the point about the differences between Carnegie and Holmes. It is not surprising if the concept of lead teacher is hard to think of in nonhierarchical terms. You can manage it, but it is quite hard to do so. I have a rather bright colleague in Oxford who misread the Carnegie report. He said he understood what "lead soldiers" were but he didn't know what "lead teachers" were. It's a funny word. There's a bit of a problem there. And the other is the sense that the present round of teacher education reform requires holistic change. The lesson that allegedly has been learned from the past says that it is no good producing different kinds of teachers to go into the old kinds of schools because they will simply be absorbed and/or become administrators because there's nothing else for them to do. Of course, a holistic reform is more vulnerable then a piecemeal reform. It is easy to change a piece at a time.

Judy

Oh sure, I get this all the time. People will be critical of Holmes and not want to be associated with it because they have to do this and that and 20 other things. The tension is great with many people. The Holmes agenda provokes resentment because of its breadth and complexity. I notice even among the deans who are now attempting to work with their faculties--you know, you get discussing things and you start talking about one thing and that part affects the other part that affects another part. Where do you begin? It is more vulnerable because there is no answer; it has to be figured out.

The Holmes effort does not promise anybody a rose garden. It is going to be extraordinarily difficult. It is high risk and may not come to pass because of its complexity, its breadth, and because we do not have the directions. I think of the Holmes Group in some respects as a major pioneering effort and a major problem-solving effort that pioneering usually is because you have got to figure it out as you go. Moreover, we have to do this in its full range and complexity which means you cannot just take one part and specialize in it.

The Carnegie effort has attempted to simplify and it is unclear how that will actually come about because the way it is presently being defined is also very complex. What if the developmental work that tries to address the complexity were to cease, and the board were still there and a testing company put together another exam? That to me is a huge risk. I am skeptical about testing, not because thinking about a good exam will not be helpful, but because exams in and of themselves are totally insufficient. I have yet to see exams improve anything very much. They haven't helped the elementary and secondary sector.

If the problem is the one I outlined--that we lose from the teaching workplace a substantial portion of those who would score very well on those exams--then what good is it to screen for a small group when what we are trying to do in this country is prepare a mass profession. We need a lot of these people. If we only needed a small number, it would not be so difficult. If the Carnegie effort is joined by others, including Holmes and many of the school initiatives that are underway, it just could come together, but I doubt that it will just happen.

Things are too intricately tied with one another. There are the expectations that schools hold for teachers, the ways in which states certify them, and the ways we approach educating people. The only way to do it then is either change that system or break out of it which is what New Jersey has attempted to do. They've said you can't change it, so let's ignore it. The temptation is, if you have this huge system built to handle large numbers of high turnover people, and you want a different kind of teacher, you either have to change the system or scrap it and go somewhere else, start over and build one anew. That is why if Carnegie were only going to screen for bright teachers that would stay and convert the system, I do not think that would be sufficient to bring about the kind of change we need.

Harry

Could I bring some things together because they go back to one of the tensions I detect in the whole debate. If you are building a suspension bridge, tension is a good thing to have! It would turn around words like "collegiality." I would link the concept of autonomy with what you were saying about an acceptable hierarchization of the profession, about testing and about the origins of the teacher education reform movement. Now taking your view about testing, that you knew of no educational improvement that was brought about as a result of testing . . .

Judy

Alone.

Harry

Alone, anymore than taking people's temperatures works on its own even though it is the thing most often done to sick people. In fact, it improves them or cures them which is no doubt why the thermometer is the most often used instrument in National Health Service Hospitals in Britain. Yet it is deeply embedded in American habits of thinking about accountability because this is one of the ways in which you discover whether or not a piece of the educational system is doing its job. This is now the argument that is being extended to higher education--that all this public money should not be poured into wasteful, self-indulgent universities unless they can show that some value is added to the undergraduates whom they are educating and the only way you know that is by measuring it. This is then accepted and task forces are set up to discover a way of doing it.

I suppose my question would go like this: Do you see a way for the kind of collegiality that certainly existed in the romantic Britain of the 1960s in which teachers made all the major decisions about curriculum, tracking, streaming, school objectives, choice of textbooks, kinds of examinations? Do you see that kind of development within a profession with differentiations? Can collegiality sit comfortably with the ways in which governors think about educational provision? The ways in which school boards think? I mean, is the powerful tradition of lay control--that the schools belong to the community--reconcilable with the kind of teacher autonomy which you and I would foresee as an essential piece of the teacher education reform movement?

Judy

I don't know. It is a wonderful question. It seems to me there is not an answer, but rather a response and some ways of handling it. For this to work, the kind of collegial relationships that help us become more successful in our teaching of youngsters, we have to have professional teams of people working together to find more and different and better solutions and ways that they can be responsible not just for the goals but the direction and the gains and the growth. You have to break out of the constraints. You need more time and opportunity to think and to construct solutions together, to consider the problems.

I get pessimistic because it seems that, in the United States, this is such a huge thing. I often say we need the research universities to take these matters seriously because solutions to these tough problems are not just going to present themselves. They have to be figured out and tested and studied and experimented with in a responsible way. We do need to figure out ways to try out some of these arrangements in schools. That is the argument behind the professional development schools. We do not even know what it would cost to have different kinds of people helping out in schools.

I am going to use my classic example that relates back to differentiated staffing, but it really makes the point about costs. When I was a first-grade teacher in the Laboratory School at the University of Wisconsin, one of the major things that I did was "boots and leggings." I would do that from 9:00 until 9:15 when the kids were coming in and then I would teach for a good hour and then from 10:00 to 10:15 we would do boots and leggings again as we went out for recess. Then they would come back in and I would have an hour or hour and a half of teaching and then I would eat lunch with the kids and keep peas out of the pockets and things that a teacher does. Then we would do boots and leggings again and they would go out and I would be on the playground with them. Then we would come back in and I would do boots and leggings again. Before they went home, a final round of boots and leggings. Of course, I worked on a lot of personal stuff during that time but I would not have to do it over and over with that many kids everyday in order to get the interaction. I am a real professional who can exercise judgment of the sort that we're trying to talk about. What could we do differently that would free up some of that person's time? I don't know if they were able to do that in England--to plan and try to make it operate differently, really study and engage in developmental work with other professionals and break out of the rules and regulations that say you can only have so many people in the classroom and you have got to check in at the door. The freedom, the room to move, to responsibly try new things that might help us have better outcomes, to try new ways of showing accountability, not just the existing tests that we have--if we could get that, I think that we could have a chance, but probably not in my lifetime.

Harry

I read the teacher education reform in the States as really dependent upon a series of simultaneous changes: the reform of the arts and science undergraduate curriculum, the elimination of the major in education, the recognition of teacher education as essentially a graduate activity, the conversion of schools of education into professional schools rather than hybrid arts and science type schools, the creation of something like the professional development school and the grounding in practice, and the restructuring of the profession of schooling. That is a huge agenda and I think it will flourish.

Judy

I want to clarify something. We intend to say that teacher education is to be primarily a graduate activity. There are those of us who want teacher education to continue to be an all-university responsibility, which includes arts and sciences. We want this rhetoric that teacher education is an all-university responsibility. Actually, it has not been anybody's responsibility. It is a matter of foreground and background. In the undergraduate years, the foreground is the arts and sciences with some alternative routes within teacher education. There would be beginning studies of a liberal sort and perhaps beginning professional studies, too. In the graduate years, it does not mean that you no longer have any arts and sciences, but the foreground would be professional studies.

Harry

But the greatest problem . . .

Judy

Is the arts and sciences.

Harry

It is not that I was trying to make a divisive point about teacher education being an all graduate activity though that's what I personally happen to believe for Britain. The problem is that there is an underlying assumption or aspiration that the arts and science people (whom I dearly love and count myself among for some purposes), will be able to deliver the appropriate subject matter for those who are subsequently going to teach. I wonder on what that assumption or aspiration is based, especially as (and this I believe is the profoundest, most unexposed of unexplored paradoxes of all) especially as the people who teach arts and sciences are not themselves trained and qualified teachers and therefore must, by definition, be incapable of teaching.

Judy

I think that is often the case.

Harry

Yes, well, we've got a problem.

Judy

You've got a lot of very poor teaching going on in the university.

Harry

Yes.

Judy

That could be related to lack of preparation. The Holmes Board just held a meeting at Wingspread with provosts, academic vice-presidents, and chief academic officers. You know what their major recommendation was?

Harry

That nobody should be appointed as an assistant professor who had not previously been trained as a teacher?

Judy

That is pretty close. They said they felt that education faculty had not been adequately assertive on their campuses. They said that the place to break the cycle is with the preparation of those who teach future teachers at the university. They are serious and willing to help focus the efforts of the Holmes Group on preparing graduate assistants. Since they are the most powerless group on most campuses of research universities, it might be done. You could not do that with the faculty, but you could possibly do it with future faculty.

Harry

Experiment on them, yes.

Judy

If the arts and sciences joined with those in education to undertake that activity, there would be a chance of getting it going.

Harry

Yes, it would. And it would suggest all sorts of other things to me, like please could we talk for another hundred hours soon. Judy, thank you very much. You gave me an engaging conversation.

Lynn

I want to thank Judy and Harry for sharing their thoughts with us. I'm grateful for the chance to hear the conversation and particularly grateful for your willingness to use this format so that we could be part of it.

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